



United States Department of
Agriculture

Forest Service

Pacific Southwest Region

R5-MB-074-B

September 2005



Final Environmental Impact Statement, Volume 2 (Appendices)

Land Management Plans

Angeles National Forest

Cleveland National Forest

Los Padres National Forest

San Bernardino National Forest



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Document Format Protocols

The following format protocols (font type, size, and strength, as well as indentation) are used throughout the Land Management Plan.

All headings are Arial bold, in varying font sizes and indentation.

Text is generally Times New Roman, 12 point regular.

Table Titles are Arial Narrow, bold, 11 point.

Table column headings are in Arial Narrow, 10 pt, with a shaded background.
Table cell contents are Times New Roman, 12 point. Note: Tables were managed in a database environment, and were assigned unique numbers as their need was identified. During the lifetime of the analysis, over 500 tables were created for potential use. Some tables were later determined to be redundant or unnecessary. The planning team decided not to renumber the tables for publication due to the amount of work required to locate and update every reference to every table. Thus, the table numbers are not consecutive, and all table numbers were not used in the final documents.



Photograph captions have a top and bottom border to separate them from regular text, and are 12 point Arial font. For example, this is a clip-art butterfly.

References to websites (URLs) are in OCR B MT, 10 point in the printed version. In the electronic version, these are live links. The electronic version is posted at:

[www. fs. fed. us/r5/angel es/projects/lmp](http://www.fs.fed.us/r5/angel es/projects/lmp)

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[www. fs. fed. us/r5/sanbernardi no/projects/lmp](http://www.fs.fed.us/r5/sanbernardi no/projects/lmp)

Appendix A. Common Acronyms

A

ABAG: Association of Bay Area Governments
ADT: Average Daily Traffic
AIM: Abandoned and Inactive Mines
ANF: Angeles National Forest
APCD: Air Pollution Control District
ATV: All-Terrain Vehicle
AUM: Animal Unit Month

B

BA: Biological Assessment
BAER: Burned Area Emergency Rehabilitation
BC: Back Country
BCMUR: Back Country Motorized Use Restricted
BCNM: Back Country Non-Motorized
BLM: Bureau of Land Management
BMP: Best Management Practices

C

CalEPPC: California Exotic Pest-Plant Council
Caltrans: California Department of Transportation
CBDT: California Backcountry Discovery Trail
CBZ: Critical Biological Zones
CCC: Civilian Conservation Corps
CDF&G: California Department of Fish and Game
CDFA: California Department of Food and Agriculture
CDMG: California Department of Mines and Geology
CEQ: Council on Environmental Quality
CEQA: California Environmental Quality Act
CERCLA: Federal Comprehensive Environmental Response, Compensation and Liability Act
CFR: Code of Federal Regulations
CHMS: Carbonate Habitat Management Strategy
CIP: Capital Improvement Program

CIWMB: California Integrated Waste Management Board

CNF: Cleveland National Forest

CO: Carbon Monoxide

COE: U.S. Army Corps of Engineers

CRRPT: California Roundtable on Recreation, Parks and Tourism

CS: Consumer Surplus

CUA: Concentrated use areas

CY: Current Year

D

DAI: Developed Area Interface (also Developed Area Intermix on maps for Alternatives 1 through 6; this is a land use zone that was combined with Urban/Rural Interface to form a new zone called Developed Area Interface).

DEIS: Draft Environmental Impact Statement

DEM: Digital Elevation Mode

DFG: Department of Fish and Game

DLC: Desired Landscape Character

DOD: U.S. Department of Defense

DOI: U.S. Department of the Interior

DOT: U.S. Department of Transportation

E

EF: Experimental Forest

EIS: Environmental Impact Statement

EPA: U.S. Environmental Protection Agency

ESA: Endangered Species Act

EUI: Ecological Unit Inventory

EW: Existing Wilderness

F

FAA: Federal Aviation Administration

FEIS: Final Environmental Impact Statement

FERC: Federal Energy Regulatory Commission

FIY: Forest Inventory Analysis

FR: Federal Register

FSH: Forest Service Handbook

FSM: Forest Service Manual

FWS: Fish and Wildlife Service (see USFWS)

FY: Fiscal Year

G

GIS: Geographic Information System

GPRA: Government Performance and Results Act

GPS: Global Positioning System

H

HAP: Hazardous Air Pollutants

HWY: Highway

I

IDT: Interdisciplinary Team

IMPLAN: Impact analysis for PLANning

IRA: Inventory Roadless Area

ISCST: Industrial Source Complex (Short Term)

IUCN: International Union for Conservation of Natural Resources

L

LEIMARS: Law Enforcement and Investigation Management Reporting System

LMP: Land Management Plan (forest plan)

LPNF: Los Padres National Forest

LRMP: Land and Resources Management Plan

LTA: Land Type Association

LUZ: Land Use Zone

M

M&E: Monitoring and Evaluation

MCP: Market Clearing Price

MIS: Management Indicator Species

MIST: Minimum Impact (Wildland fire) Suppression Techniques

ML: Road Maintenance Level

MMBF: Millions of Board Feet

MOU: Memorandum of Understanding

MP: Milepost

MW: Megawatts

N

NCCP: Natural Community Conservation Planning

NEPA: National Environmental Policy Act

NF: National Forest

NFMA: National Forest Management Act

NFP: National Fire Plan

NFS: National Forest System

NFSR: National Forest System Roads

NHPA: National Historic Preservation Act

NOAA: National Oceanographic and Atmospheric Administration

NOI: Notice of Intent

NO_x: Nitrogen Oxide Gases

NSRE: National Survey of Recreation and the Environment

NVUM: National Visitor Use Monitoring

O

OHMVR: Off-Highway Motor Vehicle Route

OHV: Off-Highway Vehicle

OSHA: Occupational Safety and Health Administration

P

PAC: Protected Activity Centers

PAOT: Persons At One Time (Recreation capacity measurement)

PCH: Pacific Coast Highway (also known as California State Highway 1)

PCT: Pacific Crest Trail (also known as Pacific Crest National Scenic Trail)

PFSR: Public Forest Service Roads

PM_x: Particulate Matter less than x Microns

PSW: Pacific Southwest Forest and Range Experiment Station

PURPA: Public Utility Regulatory Policies Act

R

RAP: Roads Analysis Process

RCA: Riparian Conservation Areas

RDM: Residual Dry Matter

RFDS: Reasonable Future Development Scenario

RNA: Research Natural Area

ROD: Record of Decision

ROG: Reactive Organic Gases

ROS: Recreation Opportunity Spectrum
RPA: Resource Planning Act
RPS: Renewable Portfolio Standards
RVD: Recreation Visitor Day
RW: Recommended Wilderness

S

SAC: Scenic Attractiveness Class
SANDAG: San Diego Association of Governments
SBNF: San Bernardino National Forest
SCAG: Southern California Association of Governments
SCMFA: Southern California Mountains and Foothills Assessment
SEA: Socioeconomic Assessment
SeDab: Southeast Desert Basin
SERE: Survival Evasion Resistance Escape
SFP: Special Forest Products
SIA: Special Interest Area
SO_x: Sulphur Oxide
spp.: Species
SRSJMNM: Santa Rosa and San Jacinto Mountains National Monument
SUV: Sport Utility Vehicle

T

T&E: Threatened and Endangered
TEPCS: Threatened, Endangered, Proposed, Candidate and Sensitive Species
TEPS: Threatened, Endangered, Proposed or Sensitive
TES: Threatened, Endangered or Sensitive (see TEPS)

U

URI: Urban and Rural Interface (Used only on maps for Alternatives 1 through 6; this zone has been combined with Developed Area Intermix to form the current zone Developed Area Interface).
USDA: United States Department of Agriculture
USDI: United States Department of Interior
USFS: United States Forest Service
USFWS: United States Fish and Wildlife Service

USGS: United States Geological Survey

V

Vpd: Vehicles per day

W

W: Wilderness
WD: Wheel Drive
WSR: Wild and Scenic Rivers
WRCPP: Western Regional Corridor Planning Partnership
WUI: Wildland/Urban Interface

Appendix B. Species Viability

Species Lists

The following tables document the federally listed threatened or endangered species and regionally listed sensitive species discussed in this document:

- Table 361: Federally Listed Plant Species - Endangered, Threatened, Proposed or Candidate
- Table 362: Federally Listed Animal Species - Endangered, Threatened, Proposed or Candidate
- Table 363: Forest Service Pacific Southwest Region Sensitive Animal Species
- Table 364: Forest Service Pacific Southwest Region Sensitive Plant Species

Species within Critical Biological Land Use Zones

- Table 365: Primary Species within Critical Biological Land Use Zones

Table 467. Key to Codes Frequently Used in Biodiversity Tables

Code Categories (not found in all tables):

- Forest Occurrence Codes
- National Forests and Forest Distribution/Mountain Range
- Risk Category Code (Risk or Threat Category)
- State of California Status (CA)
- Federal Status (Fed.)
- CNPS R-E-D Code
- CNPS List
- Habitat Group Codes (HabGrp)
- NatureServe Rank and Definition
- Viability Outcome Codes

Forest Occurrence Codes

y	occurs; breeds or probably breeds
h	historically occurred and bred
p	potentially occurs and breeds
h/p	historic and potentially still occurs
t	transient, migrates through forest
w	winters on forest

National Forests and Forest Distribution / Mountain Range

A	Angeles
ANF	Angeles National Forest
C	Cleveland
CAS	Castaic

CNF	Cleveland National Forest
L	Los Padres
LPNF	Los Padres National Forest
NLP	Northern Los Padres
NSL	Northern Santa Lucia.
S	San Bernardino
SA	Santa Ana
SB	San Bernardino
SBNF	San Bernardino National Forest
SD	San Diego
SG	San Gabriel
SJ	San Jacinto
SLP	Southern Los Padres
SSL	Southern Santa Lucia

Risk Category Code (Risk or Threat Category)

1	Not in Plan area.
2	Potential habitat only in Plan area.
3	Common or widespread in Plan area with no substantial threats from FS activities.
4	Uncommon, rare, or disjunct in Plan area with no substantial threats from FS activities.
5	Uncommon, rare, or disjunct in Plan area with substantial threats
6	Common or widespread in Plan area with substantial threats

State of California Status (CA)

CE	State Listed Endangered
CT	State Listed Threatened
SSC	Species of Special Concern
CR	State Listed Rare

Federal Status (Fed.)

FE	Federally Listed Endangered
FT	Federally Listed Threatened
PE	Federally Proposed Endangered
PT	Federally Proposed Threatened
SC	“Species of Concern” List (former C2s)
S	Forest Service Sensitive List

CNPS R-E-D Code

R – Rarity	
1	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time,
2	Distributed in a limited number of occurrences, occasionally more if each occurrence is small,
3	Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported
E – Endangerment	
1	Not endangered
2	Endangered in a portion of its range
3	Endangered throughout its range
D – Distribution	
1	More or less widespread outside California
2	Rare outside California
3	Endemic to California

CNPS List

List 1A	Plants Presumed Extinct in California
List 1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
List 3	Plants About Which We Need More Information - A Review List
List 4	Plants of Limited Distribution - A Watch List

Habitat Group Codes (HabGrp)

1	General riparian
1.1	low elevation riparian (<4,000 ft.)
1.2	high elevation riparian (>4,000 ft.)
1.3	aquatic riparian
2	Oak/walnut woodland and savanna
3	Scrub and chaparral
3.1	coastal sage scrub
3.2	chaparral
4	Mixed Hardwood/Conifer
5	Montane Conifer Forest
6	Monterey coastal marine
7	alpine and sub-alpine
8	Desert montane
9	Gabbro/clay
10	Limestone/carbonate
11	Pebble plains
12	Serpentine
13	Montane meadow
13.1	wet meadows
13.2	dry meadows
14	Lakes and reservoirs
15	Vernal pools
16	Habitat generalist
17	Low Elevation Valley Floor
17.1	cismontane valleys
17.2	western San Joaquin Valley
17.3	alluvial fan scrub
18	Desert Floor
19	Grassland

NatureServe Website Version 1.8 (1 July 2003).

Global ranks are assigned by NatureServe scientists or by a designated lead office in the Natural Heritage Network. Global Heritage Status Rank Definitions Global (G), Subspecies (T), State (S)

Rank and Definition

G1, T1, S1	Critically Imperiled—because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (<1,000) or acres (<2,000) or linear miles (<10).
G2, T2, S2	Imperiled—because of rarity or because of some factor(s) making it very vulnerable to extinction or elimination. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000) or linear miles (10 to 50).
G3, T3, S3	Vulnerable—either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction or elimination. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.
G4, T4, S4	Apparently Secure—Uncommon but not rare (although it may be rare in parts of its range, particularly on the periphery), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. Typically more than 100 occurrences and more than 10,000 individuals.
G5, T5, S5	Secure—Common, widespread, and abundant (although it may be rare in parts of its range, particularly on the periphery). Not vulnerable in most of its range. Typically with considerably more than 100 occurrences and more than 10,000 individuals.
G?	Unranked—Global rank not yet assessed.
HYB	Hybrid—Element not ranked because it represents an interspecific hybrid and not a species.

Viability Outcome Codes

For Plants and Invertebrates (with host plants) on National Forest System lands:	
A.	Habitat is sufficient quality, distribution, and abundance to allow the species population to remain stable or stabilize, well distributed across historic range on NFS land.
B.	Habitat is of sufficient quality, distribution, and abundance to allow the species population to remain stable or stabilize, but with significant gaps in the historic species distribution on NFS land. These gaps cause some limitations in interactions among populations.
C.	Habitat only allows continued species existence in isolated patches relative to the historic distribution, with strong limitations on interactions among or within local populations on NFS land.
D.	Habitat conditions likely result in the loss of populations (occurrences) such that the potential for extirpation from NFS lands is high.
E.	Small population size in plants that are inherently rare and not naturally well distributed may result in the loss of populations (occurrences) from stochastic events such that the potential for extirpation from NFS lands is high. Potential for extirpation is unrelated to uses and activities on NFS land.
For Animals on National Forest System lands:	
A.	Suitable habitat is well distributed and abundant across NFS lands.

B.	Suitable habitat is either well distributed or abundant across NFS lands; however, there are temporary gaps where suitable habitat is absent or only present in low abundance. Disjunct areas of suitable habitat are typically large enough and close enough to permit dispersal and interaction among subpopulations.
C.	Suitable habitat is often distributed as patches or exists at low abundance, or both across NFS lands. Gaps, where suitable habitat is either absent or present in low abundance, are large enough to isolate some subpopulations, limiting opportunity for species interactions. In most of the species range there are opportunities for dispersal and interaction among subpopulations; however, some subpopulations are so disjunct or of such low density that they are essentially isolated.
D.	Suitable habitat is highly isolated or exists at very low abundance, or both across NFS lands. While some subpopulations associated with these habitats may be self-sustaining, there is limited or no opportunity for population interaction, resulting in potential for local or regional extirpation, and low likelihood of recolonization. There has likely been a reduction in overall species range from historical conditions, except for some rare, local endemics that may have persisted in this condition since the historical period.
E.	Suitable habitat is highly isolated and exists at very low abundance across NFS lands. Populations have declined irrespective of habitat conditions or have little or no interaction. This results in strong potential for local or regional extirpation, and no likelihood of recolonization.

For all land within range of species (based in part on the geographic distribution within which the species is projected to persist):

A.	The combination of environmental (habitat) and population conditions allows the species population to remain stable or stabilize, well distributed across historic range.
B.	The combination of environmental (habitat) and population conditions allows the species population to remain stable or stabilize, but with significant gaps in the historic species distribution. These gaps cause some limitations in interactions among populations.
C.	The combination of environmental (habitat) and population conditions only allows continued species existence in isolated patches relative to the historic distribution, with strong limitations on interactions among or within local populations.
D.	The combination of environmental (habitat) and population conditions likely result in the loss of populations (occurrences).

Table 361. Federally Listed Plant Species - Endangered, Threatened, Proposed or Candidate

SCIENTIFIC NAME	COMMON NAME	FED Cat	ANF	CNF	LPNF	SBNF	Critical Habitat on Forest	Rec Plan
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	FT		Y				
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenbury puncturebract	FE				Y	Y - D	
<i>Allium munzii</i>	Munz's onion	FE		Y			Y - D	
<i>Arenaria paludicola</i>	Marsh sandwort*	FE				P		Y
<i>Arenaria ursina</i>	Bear Valley sandwort	FT				Y		
<i>Astragalus albens</i>	Cushenbury milk-vetch	FE				Y	Y - D	
<i>Astragalus brauntonii</i>	Brauton's milk-vetch*	FE	M	M				Y

SCIENTIFIC NAME	COMMON NAME	FED Cat	ANF	CNF	LPNF	SBNF	Critical Habitat on Forest	Rec Plan
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch*	FE				M		
<i>Astragalus tricarinatus</i>	Triple-ribbed milk-vetch*	FE				M		
<i>Baccharis vanessae</i>	Encinitas baccharis	FT		Y				
<i>Berberis nevinii</i>	Nevin's barberry	FE	Y	Y		M		
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT	M	Y		M		
<i>Castilleja cinerea</i>	Ashy-grey paintbrush	FT				Y		
<i>Caulanthus californicus</i>	California jewelflower	FE			S-NF			Y
<i>Ceanothus ophiochilus</i>	Vail Lake ceanothus	FT		Y				
<i>Chlorogalum purpureum</i> var. <i>reductum</i>	Camatta Canyon amole	FT			Y		Y - D	
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower*	FC			P			
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	FE	M	Y		Y		
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Santa Monica Mountains dudleya	FT		Y				Y
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar*	FE				P		
<i>Erigeron parishii</i>	Parish's daisy	FT				Y	Y - D	
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	Southern mountain buckwheat	FT				Y		
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	FE				Y	Y - D	
<i>Nasturtium gambelii</i>	Gambel's watercress*	FE				P		Y
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	FE				Y	Y - D	
<i>Poa atropurpurea</i>	San Bernardino bluegrass	FE		Y		Y		
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	FC			Y	Y		
<i>Sidalcea pedata</i>	Bird-foot checkerbloom	FE				Y		Y
<i>Taraxacum californicum</i>	California taraxacum	FE	M			Y		Y
<i>Thelypodium stenopetalum</i>	Slender-petaled thelypodium	FE				Y		

* Probably not found on NFS lands,
 FT = Threatened
 FE = Endangered
 FC = Candidate
 Y = Found on NFS lands
 H = Historic occurrences, none recent

M = Modeled habitat present
 P = Possibly present, no records
 S-NF = Surveyed, not found,
 D = Designated
 Prop = Proposed
 Rec Plan = Recovery Plan

Table 362. Federally Listed Animal Species - Endangered, Threatened, Proposed or Candidate

Species Name	Common Name	Taxon	Fed	ANF	CNF	LPNF	SBNF	Critical Hab.	CH On Forest	Rec Plan
<i>Euphilotes enoptes smithi</i>	Smith's blue butterfly	Invertebrate	FE			Y				Y
<i>Euphydryas editha quino</i>	Quino checkerspot	Invertebrate	FE		Y		Y	D	Y	Y
<i>Pyrgus ruralis lagunae</i>	Laguna Mountains skipper	Invertebrate	FE		Y					
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	Invertebrate	FE			Y		D	Y	
<i>Branchinecta longiantenna</i>	Longhorn fairy shrimp	Invertebrate	FE			P		Prop	N	
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Invertebrate	FT		P	Y		D	Y	
<i>Catostomus santaanae</i>	Santa Ana sucker	Fish	FT	Y		Y/intro	H/M	D	Y	
<i>Eucyclogobius newberryi</i>	Tidewater goby	Fish	FE			M		D	N	
<i>Gasterosteus aculeatus williamsoni</i>	Shay Creek stickleback	Fish	FE				y			
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored 3-spine stickleback	Fish	FE	Y		H				Y
<i>Oncorhynchus mykiss</i>	Southern steelhead (southern esu)	Fish	FE	H	Y		H	Prop	Y	
<i>Oncorhynchus mykiss</i>	Southern steelhead (south-central esu)	Fish	FT			Y		Prop	Y	
<i>Bufo californicus</i>	Arroyo toad	Amphibian	FE	Y	Y	Y	Y	Prop	Y	Y
<i>Rana muscosa</i>	Mountain yellow-legged frog	Amphibian	FE	Y	H		Y			
<i>Rana aurora draytonii</i>	California red-legged frog	Amphibian	FT	Y	H/M	Y	H/M	D	Y	Y
<i>Gopherus agassizi</i>	Desert tortoise	Reptile	FT	Y			Y	D	N	Y
<i>Gambelia silus</i>	Blunt-nosed leopard lizard	Reptile	FE			M				Y
<i>Pelecanus occidentalis californicus</i>	California brown pelican	Bird	FE			Y				Y
<i>Sterna antillarum browni</i>	California least tern	Bird	FE			M				Y
<i>Charadrius alexandrinus</i>	Snowy plover	Bird	FT			Y		D	N	Y
<i>Brachyramphus marmoratus</i>	Marbled murrelet	Bird	FT			M		D	N	Y

Species Name	Common Name	Taxon	Fed	ANF	CNF	LPNF	SBNF	Critical Hab.	CH On Forest	Rec Plan
<i>Gymnogyps californianus</i>	California condor	Bird	FE	H/M	H	Y	Y	D	Y	Y
<i>Haliaeetus leucocephalus</i>	Bald eagle	Bird	FT	W	W	Y/W	Y/W			Y
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	Bird	FE	Y	Y	Y	Y	Prop	N	Y
<i>Polioptila californica californica</i>	California gnatcatcher	Bird	FT		Y		M	Prop	Y	
<i>Vireo bellii pusillus</i>	Least Bell's vireo	Bird	FE	M	Y	Y	Y	D	Y	Y
<i>Coccyzus americanus</i>	Yellow-billed cuckoo	Bird	FC							
<i>Dipodomys ingens</i>	Giant kangaroo rat	Mammal	FE			P				Y
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	Mammal	FE				Y	D	Y	
<i>Dipodomys stephensi</i>	Stephen's kangaroo rat	Mammal	FE		Y					
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Mammal	FE			Y				Y
<i>Enhydra lutris nereis</i>	Southern sea otter	Mammal	FT			Y				Y
<i>Eumetopias jubatus</i>	Stellar's sea lion	Mammal	FT			Y		D	Y	Y
<i>Ovis anadensis cremnobates</i>	Peninsular bighorn sheep	Mammal	FE				Y	D	Y	Y

An additional four species have federal status in the planning area; however U.S Fish and Wildlife Service response to U.S. Forest Service species list requests do not include these species due to low potential on National Forest System lands:	<i>Ambystoma californiense</i> , California tiger salamander <i>Branchinecta sandiegonensis</i> , San Diego fairy shrimp <i>Gilia bicolor mohavensis</i> , Mojave tui chub <i>Spermophilus tereticaudus chlorus</i> , Coachella Valley round-tailed ground squirrel	FE, FC FE FE FC	FT = Threatened FE = Endangered FC = Candidate Y = found on NFS lands W = on NFS lands in winter only H = historic occurrences, none recent M = modeled habitat present P = possibly present, no records	Critical Hab., CH = critical habitat: D = designated Prop = proposed V = vacated Y = CH on NFS land N = no CH on NFS lands Rec Plan = Recovery Plan
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Table 363. Forest Service Pacific Southwest Region Sensitive Animal Species

Scientific Name	Common Name	ANF	CNF	LPF	SBNF
Birds (6)					
<i>Accipiter gentilis</i>	Northern goshawk	X		X	X
<i>Buteo swainsoni</i>	Swainson's hawk	X		X	
<i>Campylorhynchus brunneicapillus sandiegensis</i>	San Diego cactus wren		X		X
<i>Empidonax traillii</i>	Willow flycatcher (migrant)	X	X	X	X
<i>Falco peregrinus anatus</i>	American peregrine falcon	X	X	X	X
<i>Strix occidentalis occidentalis</i>	California spotted owl	X	X	X	X
Mammals (10)					
<i>Antrozous pallidus</i>	Pallid bat	X	X	X	X
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	X	X	X	X
<i>Glaucomys sabrinus californicus</i>	San Bernardino flying squirrel				X
<i>Lasiurus blossevillei</i>	Western red bat	X	X	X	X
<i>Macrotus californicus</i>	California leaf-nosed bat		X		X
<i>Ovis canadensis nelsoni</i>	San Gabriel Mountains bighorn sheep	X			X
<i>Perognathus alticolus alticolus</i>	San Bernardino white-eared pocket mouse	X			X
<i>Perognathus alticolus inexpectatus</i>	Tehachapi pocket mouse	X		X	
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	X	X		X
<i>Tamias speciosus callipeplus</i>	Mt. Pinos lodgepole chipmunk			X	
Amphibians (5)					
<i>Ensatina eschscholtzii croceater</i>	Yellow-blotched salamander	X		X	X
<i>Ensatina eschscholtzii klauberi</i>	Large-blotched salamander		X		X
<i>Batrachoseps gabrieli</i>	San Gabriel Mountain slender salamander	X			X
<i>Batrachoseps stebbinsi</i>	Tehachapi slender salamander			X	
<i>Rana boylei</i>	Foothill yellow-legged frog			X	
Reptiles (10)					
<i>Actinemys marmorata pallida</i>	Southern Pacific pond turtle	X	X	X	X
<i>Phrynosoma coronatum blainvillii</i>	San Diego horned lizard	X	X	X	X
<i>Anniella pulchra</i>	California legless lizard	X	X	X	X
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	X			X
<i>Diadophis punctatus similis</i>	San Diego ringneck snake		X		X
<i>Charina bottae umbratica</i>	Southern rubber boa	X		X	X
<i>Lichanura trivirgata roseofusca</i>	Coastal rosy boa	X	X		X
<i>Lampropeltis zonata parvirubra</i>	San Bernardino mountain kingsnake	X			X
<i>Lampropeltis zonata pulchra</i>	San Diego mountain kingsnake		X		X
<i>Thamnophis hammondi</i>	Two-striped garter snake	X	X	X	X
Inland and Anadromous Fishes (3)					
<i>Gasterosteus aculeatus microcephalus</i>	Partially armored 3-spine stickleback				X
<i>Gila orcutti</i>	Arroyo chub	X	X	X	X
<i>Rhinichthys osculus</i> ssp	Santa Ana speckled dace	X	X	X	X
Total Sensitive Animals = 34	Number of Sensitive Animals per Forest	24	20	20	30

Table 364. Forest Service Pacific Southwest Region Sensitive Plant Species

Scientific Name	Common Name	ANF	CNF	LPNF	SBNF
<i>Abronia nana</i> ssp. <i>covillei</i>	Coville's dwarf sand verbena				X
<i>Acanthoscyphus parishii</i> var. <i>abramsii</i>	Abrams' flowery puncturebract			X	
<i>Acanthoscyphus parishii</i> var. <i>cienegensis</i>	Cienega Seca flowery puncturebract				X
<i>Arabis breweri</i> var. <i>pecuniaria</i>	San Bernardino rockcress				X
<i>Arabis johnstonii</i>	Johnston's rockcress				X
<i>Arabis parishii</i>	Dwarf rockcress				X
<i>Arabis shockleyi</i>	Shockley's rockcress				X
<i>Arctostaphylos cruzensis</i>	Arroyo de la Cruz manzanita			X	
<i>Arctostaphylos edmundsii</i>	Little Sur manzanita			X	
<i>Arctostaphylos luciana</i>	Santa Lucia manzanita			X	
<i>Arctostaphylos peninsularis</i> var. <i>peninsularis</i> *	Peninsular manzanita				*
<i>Arctostaphylos pilosula</i>	Santa Margarita manzanita			X	
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita		X		
<i>Arctostaphylos refugioensis</i>	Refugio manzanita			X	
<i>Arenaria macradenia</i> var. <i>kuschei</i>	Mojave sandwort	X			
<i>Astragalus bicristatus</i>	Two-crested milkvetch	X			X
<i>Astragalus deanei</i>	Deane's milk-vetch		X		
<i>Astragalus douglasii</i> var. <i>perstrictus</i>	Jacumba milk-vetch		X		
<i>Astragalus lentiginosus</i> var. <i>antoniuis</i>	Freckled milk-vetch	X			X
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Sierra milk-vetch				X
<i>Astragalus oocarpus</i>	Descanso milk-vetch		X		
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's milk-vetch		X		
<i>Atriplex parishii</i>	Parish's saltbush				X
<i>Botrychium crenulatum</i>	Scalloped moonwort	X			X
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea		X		
<i>Calochortus dunnii</i>	Dunn's mariposa lily		X		
<i>Calochortus obispoensis</i>	San Luis mariposa lily			X	
<i>Calochortus palmeri</i> var. <i>munzii</i>	Munz's mariposa lily				X
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa lily	X		X	X
<i>Calochortus plummerae</i>	Plummer's mariposa lily	X			X
<i>Calochortus striatus</i>	Alkali mariposa lily	X			X
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate mariposa lily		X		
<i>Calochortus weedii</i> var. <i>vestus</i>	Late-flowered mariposa lily			X	
<i>Calycadenia villosa</i>	Dwarf western rosinweed			X	
<i>Canbya candida</i>	White pygmypoppy	X			X
<i>Carex obispoensis</i>	San Luis Obispo sedge			X	
<i>Carlquistia muirii</i>	Muir's raillardella			X	
<i>Castilleja gleasonii</i>	Frosted Indian paintbrush	X			
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's clover		X		X

Scientific Name	Common Name	ANF	CNF	LPNF	SBNF
<i>Caulanthus amplexicaulis</i> var. <i>barbarae</i>	Clasping-leaf wild cabbage			X	
<i>Caulanthus simulans</i>	Payson's wild cabbage		X		X
<i>Ceanothus cyaneus</i>	San Diego buckbrush		X		
<i>Chorizanthe blakleyi</i>	Blakeley's spineflower			X	
<i>Chorizanthe breweri</i>	San Luis Obispo spineflower			X	
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower				X
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Knotweed spineflower		X		X
<i>Chorizanthe rectispina</i>	Prickly spineflower			X	
<i>Clarkia delicata</i>	Campo clarkia		X		
<i>Claytonia lanceolata</i> var. <i>peirsonii</i>	Western spring beauty	X			X
<i>Cupressus forbesii</i>	Tecate cypress		X		
<i>Cupressus stephensonii</i>	Cuyamaca cypress		X		
<i>Deinandra floribunda</i>	Tecate tarplant		X		
<i>Deinandra mohavensis</i>	Mojave tarplant		X		X
<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i>	Cuyamaca larkspur		X		X
<i>Delphinium hutchinsoniae</i>	Monterey larkspur			X	
<i>Delphinium inopinum</i>	Unexpected larkspur			X	
<i>Dieteria asteroides</i> var. <i>lagunensis</i>	Laguna Mountains aster		X		
<i>Dieteria canescens</i> var. <i>ziegleri</i>	Ziegler's aster				X
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	Abrams' liveforever				X
<i>Dudleya densiflora</i>	San Gabriel Mountains dudleya	X			
<i>Dudleya multicaulis</i>	Many-stemmed dudleya	X	X		
<i>Dudleya viscida</i>	Sticky dudleya		X		
<i>Eriastrum hooveri</i>	Hoover's eriastrum			X	
<i>Erigeron uncialis</i> var. <i>uncialis</i> **	Lone fleabane				**
<i>Eriogonum butterworthianum</i>	Butterworth's buckwheat			X	
<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	Southern alpine buckwheat	X		X	X
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	X			X
<i>Eriophyllum lanatum</i> var. <i>hallii</i>	Fort Teton woolly sunflower			X	
<i>Fritillaria falcata</i>	Talus fritillary			X	
<i>Fritillaria ojaiensis</i>	Ojai fritillary			X	
<i>Fritillaria viridea</i>	San Benito fritillary			X	
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	Jacinto bedstraw				X
<i>Galium californicum</i> ssp. <i>luciense</i>	Cone Peak bedstraw			X	
<i>Galium californicum</i> ssp. <i>primum</i>	California bedstraw				X
<i>Galium grande</i>	San Gabriele bedstraw	X			
<i>Galium hardhamiae</i>	Hardham's bedstraw			X	
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>	San Gabriel bluecap		X		
<i>Heuchera hirsutissima</i>	Shaggy-haired alumroot				X
<i>Heuchera parishii</i>	Parish's alumroot				X
<i>Horkelia truncata</i>	Ramona horkelia		X		
<i>Horkelia wilderae</i>	Barton Flats horkelia				X

Scientific Name	Common Name	ANF	CNF	LPNF	SBNF
<i>Ivesia argyrocoma</i>	Silver-haired ivesia				X
<i>Ivesia callida</i>	Tahquitz ivesia				X
<i>Layia heterotricha</i>	Pale-yellow layia			X	
<i>Lepechinia cardiophylla</i>	Santa Ana pitcher sage		X		
<i>Leptosiphon floribundus</i> ssp. <i>hallii</i>	Santa Rosa Mountains linanthus				X
<i>Lessingia glandulifera</i> var. <i>tomentosa</i>	Warner Springs lessingia		X		
<i>Lilium parryi</i>	Lemon lily	X	X		X
<i>Limnanthes gracilis</i> var. <i>parishii</i>	Parish's meadowfoam		X		
<i>Linanthus concinnus</i>	San Gabriel linanthus	X			X
<i>Linanthus jaegeri</i>	San Jacinto prickly phlox				X
<i>Linanthus killipii</i>	Baldwin Lake linanthus				X
<i>Linanthus orcuttii</i>	Orcutt's linanthus		X		
<i>Lupinus ludovicianus</i>	San Luis Obispo lupine			X	
<i>Malacothamnus palmeri</i> var. <i>lucianus</i>	Arroyo Seco bushmallow			X	
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i>	Carmel Valley malacothrix			X	
<i>Malaxis monophyllos</i> ssp. <i>brachypoda</i>	White adder's-mouth orchid				X
<i>Marina orcuttii</i> var. <i>orcuttii</i>	California marina				X
<i>Mimulus exiguus</i>	San Bernardino Mountains monkeyflower				X
<i>Mimulus purpureus</i>	Purple monkeyflower				X
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	Felt-leaved monardella		X		
<i>Monardella linoides</i> ssp. <i>oblonga</i>	Flax-like monardella			X	
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	X		X	X
<i>Monardella nana</i> ssp. <i>leptosiphon</i>	San Felipe monardella		X		X
<i>Monardella viridis</i> ssp. <i>saxicola</i>	Rock monardella	X			X
<i>Navarretia peninsularis</i>	Baja pincushion plant	X	X	X	X
<i>Nolina cismontana</i>	California beargrass		X		
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail	X			X
<i>Orobanche valida</i> ssp. <i>valida</i>	Rock Creek broomrape	X		X	
<i>Packera bernardina</i>	San Bernardino ragwort				X
<i>Packera ganderi</i>	Gander's ragwort		X		
<i>Pedicularis dudleyi</i>	Dudley's lousewort			X	
<i>Penstemon californicus</i>	California penstemon		X		X
<i>Pentachaeta exilis</i> ssp. <i>aeolica</i>	Meager pygmydaisy			X	
<i>Phacelia suaveolens</i> ssp. <i>keckii</i>	Santiago Peak phacelia		X		
<i>Phlox dolichantha</i>	Big Bear Valley phlox				X
<i>Plagiobothrys uncinatus</i>	Hooked popcornflower			X	
<i>Potentilla rimicola</i>	Cliff cinquefoil				X
<i>Pyrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrocoma				X
<i>Quercus dumosa</i>	California scrub oak			X	
<i>Ribes canthariforme</i>	Moreno current		X		
<i>Sanicula maritima</i>	Adobe sanicle			X	
<i>Satureja chandleri</i>	San Miguel savory		X		

Scientific Name	Common Name	ANF	CNF	LPNF	SBNF
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	Southern skullcap		X		X
<i>Sedum niveum</i>	Davidson's stonecrop				X
<i>Sibaropsis hammittii</i>	Hammit's clay-cress		X		
<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	Cuesta Pass checkerbloom			X	
<i>Sidalcea hickmanii</i> ssp. <i>hickmanii</i>	Hickman's checkerbloom			X	
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i> ***	Parish's checkerbloom			X	X
<i>Sidotheca emarginata</i>	White-margined starry puncturebract				X
<i>Streptanthus bernardinus</i>	Laguna Mountains jewel-flower		X		X
<i>Streptanthus campestris</i>	Southern jewelflower		X	X	X
<i>Swertia neglecta</i>	Pine green-gentian	X		X	X
<i>Tetracoccus dioicus</i>	Parry's tetracoccus		X		
<i>Thermopsis californica</i> var. <i>semota</i>	Velvety false lupine		X		
<i>Thermopsis macrophylla</i>	Santa Ynez false lupine			X	
<i>Viola pinetorum</i> ssp. <i>grisea</i>	Grey-leaved violet				X
Forest Sensitive Plant Species = 137	Total # Sensitive Species per Forest	23	43	46	63

X = found or likely to be found on particular national forest.

* Taxon now believed not to occur in California, but still included in table as is currently SBNF sensitive species.

**Taxon found not to occur on the San Bernardino National Forest, was erroneous record, but included in table as is SBNF sensitive species.

*** Also treated as a federal candidate species.

Updated 1998; recently listed federal species are no longer sensitive and recently delisted federal species become sensitive. List modified June 2005 based on current sensitive plant lists and name changes in botanical literature.

Table 365. Primary Species within Critical Biological Land Use Zones

FOREST	NAME	ALT 1	ALT 2	ALT 3	ALT 4	ALT 4a	ALT 5	ALT 6	Species
Angeles	Big Rock Creek (South Fork)	N	Y	Y	Y	Y	N	Y	MYLF
Angeles	Castaic Creek	Y	Y	Y	Y	Y	N	Y	ARTO
Angeles	Castaic Creek (Fish Cyn)	Y	Y	Y	N	Y	N	Y	ARTO
Angeles	Little Rock Creek (North)	Y	Y	Y	Y	Y	N	Y	ARTO
Angeles	Little Rock Creek (North)	Y	Y	Y	Y	Y	N	Y	ARTO
Angeles	Little Rock Creek (North)	Y	Y	Y	Y	Y	N	Y	ARTO
Angeles	Little Rock Creek (South)	N	Y	Y	Y	Y	N	Y	MYLF
Angeles	Little Rock Creek (South)	N	N	Y	N	Y	N	Y	MYLF
Angeles	San Francisquito Canyon	N	Y	Y	Y	Y	N	Y	CRLF, UTS
Angeles	San Francisquito Canyon	N	Y	Y	Y	Y	N	Y	CRLF, UTS
Angeles	San Francisquito Canyon	N	Y	Y	Y	Y	N	Y	CRLF, UTS, BENE
Angeles	San Gabriel River (East Fork)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (East Fork)	N	N	Y	N	N	N	Y	SASU

FOREST	NAME	ALT 1	ALT 2	ALT 3	ALT 4	ALT 4a	ALT 5	ALT 6	Species
Angeles	San Gabriel River (East Fork)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (East Fork)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (East Fork)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (East Fork)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (East Fork)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (North & West Forks)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (North & West Forks)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (North & West Forks)	N	N	Y	N	N	N	Y	SASU
Angeles	San Gabriel River (West Fork)	N	N	N	N	Y	N	Y	SASU
Angeles	Soledad Canyon	N	Y	Y	N	Y	N	Y	UTS, ARTO
Angeles	Upper Big Tujunga	N	Y	Y	N	Y	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	N	Y	N	N	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	Y	Y	N	Y	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	Y	Y	N	Y	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	N	Y	N	N	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	Y	Y	N	Y	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	N	Y	N	Y	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	Y	Y	N	Y	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	N	Y	N	Y	N	Y	ARTO, CRLF
Angeles	Upper Big Tujunga	N	N	Y	N	Y	N	Y	ARTO, CRLF
Cleveland	Dripping Springs (Arroyo Seco)	N	N	Y	N	y	N	Y	ARTO, DOLE
Cleveland	Guatay Mtn	N	Y	Y	N	Y*	N	Y	Tecate Cypress
Cleveland	King Creek	Y	Y	Y	Y	Y	N	Y	Cuyamaca cypress
Cleveland	Laguna Meadow	N	N	N	N	N	N	Y	LMS, POAT
Cleveland	Mendenhall	N	N	N	N	N	N	Y	LMS
Cleveland	Observatory	N	N	N	N	N	N	Y	LMS
Cleveland	San Diego River	N	Y	Y	N	N	N	Y	ARTO, CAGN
Cleveland	San Diego River	N	Y	Y	N	N	N	Y	ARTO, CAGN
Cleveland	San Luis Rey	N	N	Y	N	Y	N	Y	SWFL
Cleveland	San Luis Rey	N	N	Y	N	Y	N	Y	SWFL
Cleveland	Viejas Mtn	N	Y	Y	N	Y	N	Y	ACIL
Los Padres	Camatta (Proposed SIA)	N	N	N	N	N	N	Y	CHPUR
Los Padres	Middle Santa Ynez	N	N	Y	N	Y	N	Y	ARTO, CRLF, LBV

FOREST	NAME	ALT 1	ALT 2	ALT 3	ALT 4	ALT 4a	ALT 5	ALT 6	Species
Los Padres	Mono Creek Road Crossings (includes Indian Creek)	N	N	Y	N	Y	N	Y	ARTO, CRLF, LBV
Los Padres	Upper Piru	N	N	Y	N	Y	N	Y	ARTO
Los Padres	Upper Santa Ynez	N	N	Y	N	Y	N	Y	ARTO, CRLF, LBV
Los Padres	Upper Sespe	N	N	Y	N	Y	N	Y	ARTO, CRLF
San Bernardino	Bautista Creek	N	N	N	N	N	N	Y	ARTO, SBKR, DOLE
San Bernardino	Bautista Creek	N	N	Y	N	Y	N	Y	ARTO, SBKR, DOLE
San Bernardino	Bertha Ridge	N	Y	Y	Y	Y	N	Y	Carbonate
San Bernardino	City Creek	N	Y	Y	Y	Y	N	Y	MYLF
San Bernardino	City Creek	N	Y	Y	Y	Y	N	Y	MYLF
San Bernardino	Coxey Pebble Plain	N	Y	Y	Y	Y	N	Y	VBB, ECB
San Bernardino	Dark Canyon/Fuller Mill	N	Y	Y	Y	Y	N	Y	MYLF
San Bernardino	Dark Canyon/Fuller Mill	N	Y	Y	Y	Y	N	Y	MYLF
San Bernardino	Dark Canyon/Fuller Mill	N	N	N	N	N	N	Y	MYLF
San Bernardino	Dark Canyon/Fuller Mill	N	Y	Y	Y	Y	N	Y	MYLF
San Bernardino	Dark Canyon/Fuller Mill	N	N	N	N	N	N	Y	MYLF
San Bernardino	Gold Mountain	N	Y	Y	N	Y	N	Y	Pebble plain, BAEA
San Bernardino	Gold Mountain	N	N	Y	N	N	N	Y	Pebble plain, BAEA
San Bernardino	Gold Mountain	N	N	Y	N	N	N	Y	Pebble plain, BAEA
San Bernardino	Gold Mountain	N	Y	Y	N	Y	N	Y	Pebble plain, BAEA
San Bernardino	Little Horsethief Canyon	N	Y	Y	Y	Y	N	Y	ARTO
San Bernardino	Lower Deep Creek	N	Y	Y	Y	Y	N	Y	ARTO, SWFL
San Bernardino	Lower Deep Creek	N	Y	Y	Y	Y	N	Y	ARTO, SWFL
San Bernardino	South Baldwin Lake	N	Y	Y	Y	Y	N	Y	SUTS, BAEA, CACI, TACA, THST, AMB
San Bernardino	Sugarloaf Meadow	N	Y	Y	Y	Y	N	Y	SUTS, TACA
San Bernardino	Union Flat	N	N	Y	N	N	N	Y	Pebble plain

ACIL *Acanthomintha illicifolia*
 AMB Andrew's marble butterfly
 ARTO Arroyo toad
 BAEA Bald eagle
 BENE *Berberis nevinii*
 CACI *Castilleja cinerea*
 CHPUR *Chlorogalum purpureum* var. *reductum*
 CRLF California red-legged frog
 CAGN California gnatcatcher
 DOLE *Dodecahema leptoceras*
 ECB Erlich's checkerspot butterfly
 LBV Least Bell's vireo
 LMS Laguna Mountain skipper
 MYLF Mountain yellow-legged frog

POAT *Poa atropurpurea*
 SASU Santa Ana sucker
 SBKR San Bernardino kangaroo rat
 SUTS Shay Creek threespine stickleback
 SWFL Southwestern willow flycatcher
 TACA *Taraxacum californicum*
 THST *Thelypodium stenopetalum*
 UTS Unarmored threespine stickleback
 VBB Vernal blue butterfly
 Carbonate Carbonate endemic plants, SIKIB,
 EROVV
 Pebble Plain Pebble plain plants and habitat

Viability Analysis

Species Viability Evaluation Process

Introduction

The Forest Service has a mandate to manage its land base in such a way that it maintains viable populations of existing native and desired nonnative wildlife, fish, and plant species. According to the 1982 Planning Rule, under which this forest plan revision was conducted, “[f]ish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area” (36 CFR [Code of Federal Regulations] 219.19, 1982). U.S. Department of Agriculture Regulation 9500-004 extends this mandate to include plants. A viable population is defined by the regulations as “one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area” (36 CFR 219.19, 1982). To meet the goal of maintaining viable populations, “habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area” (36 CFR 219.19, 1982).

To analyze the ability of forest plan alternatives to maintain viability of wildlife, fish and plants, the Forest Service took a two-tiered approach. For species where current data indicate that population and habitat trends are within the range of natural variation, and the forest plan maintains habitat quantity and quality with a minimum of disturbance, the Forest Service considered that the distribution and integrity of habitat would provide an adequate indication of species viability. This coarse-filter approach assumes that a representative array of healthy ecological communities will sustain the vast majority of species, including many that the agency knows little about (Hunter and others 1988), and consists of the description and analysis of vegetation communities in Chapter 3 of the FEIS, sections on Vegetation Condition and Forest Health. In cases where population and habitat trends are believed to be in significant decline throughout the planning area, and substantial habitat disruption is allowed by the forest plan, a more rigorous, fine-filter approach to viability evaluation was carried out. These species were evaluated individually as described below.

Identification of Species of Concern

Identification of species of potential viability concern began with a review of the list of “focal” species that were discussed in *Southern California Mountains and Foothills Assessment: Habitat and Species Conservation Issues* (SCMFA; Stephenson and Calcarone 1999). The SCMFA described existing conditions and compiled the “best available” knowledge of the ecosystems, habitats, and species in the southern California region at the time of its publication, bringing together information from published reports, field surveys, unpublished technical reports (“gray literature”), agency files, and expert opinion. The assessment area covered 6.1 million acres of mountains and foothills that form a chain from Monterey south to the Mexican border, including the 3.5 million acres contained within the four southern California national forests. Data on landscapes, habitats, and species were compiled into a Geographic Information System (GIS) database, which allowed information to be displayed graphically as maps of important environmental attributes, vegetation types, species distributions, fire history, and so forth. The SCMFA was reviewed by numerous scientists with expertise in various aspects of southern California natural history and ecology (for partial list of reviewers, see table below).

Scientists who reviewed part or all of the *Southern California Mountains and Foothills Assessment* (Stephenson and Calcarone 1999):

Edith Allen	Dept. of Botany and Plant Sciences, Univ. of California, Riverside
Michael J. Arbaugh	USDA Forest Service, PSW Research Station, Forest Ecologist
Jan L. Beyers	USDA Forest Service, PSW Research Station, Plant Ecologist
Steven Boyd	Rancho Santa Ana Botanic Garden, Claremont
Daniel S. Cooper	Dept. of Earth Sciences, University of California, Riverside
Joseph Copp	California Academy of Sciences, La Jolla
Ron Cowan	The Quercus Group, Horizon Forest Products, Richmond, CA
Ed Ervin	USGS, San Diego State University, San Diego
Janet Franklin	Dept. of Geography, San Diego State University, San Diego
Robert Goodman, Jr.	California Polytechnic State University, Pomona
Hazel Gordon	USDA Forest Service, Sacramento Remote Sensing Lab, Ecologist
Jim Greaves	Independent Consultant, Santa Barbara
Dan Holland	Independent herpetology consultant
Robert McKernan	San Bernardino County Natural History Museum
Laura Merrill	USDA Forest Service, San Bernardino NF, Entomologist
Richard Minnich	Dept. of Earth Sciences, University of California, Riverside
Jenny Rechel	USDA Forest Service, PSW Research Station, Geographer
Tom Scott	University of California, Riverside
Glenn Stewart	Dept. of Zoology, California Polytechnic State University, Pomona
Sam Sweet	University of California, Santa Barbara
David Weise	USDA Forest Service, PSW Research Station, Research Forester
Scott White	Scott White Consulting
Dieter Wilken	Director of Research, Santa Barbara Botanic Garden
Paul Zedler	Institute for Environmental Studies, Univ. of Wisconsin, Madison

The SCMFA used the California Wildlife Habitat Relationships System (CWHR) and the California Flora Database (CALFLORA) to determine that a total of 18 amphibian, 61 reptile, 299 bird, 104 mammal, and 2,999 vascular plant species occurred in the assessment area, along with an unknown number of invertebrate animal and nonvascular plant species (Stephenson and Calcarone 1999). A total of 439 species of plants and animals (including some invertebrates) were identified as “focal” species, receiving individual attention in the SCMFA. It should be noted that the term “species” was applied broadly, in the sense used by the U.S. Fish and Wildlife Service, to include subspecific taxa (subspecies or varieties) found expressly in the planning area. Taxa were identified as potential focal species using various “species of concern” lists that state and federal wildlife agencies and private conservation organizations had developed (Stephenson and Calcarone 1999). Also identified were species that are considered common elsewhere but are rare or potentially at risk within the assessment area. Each focal species possessed one or more of the following traits: (1) occurs in only a few limited areas, (2) is particularly vulnerable to prevailing landscape changes, (3) has a small population size, (4) has large area requirements, or (5) there is a great deal of uncertainty about its distribution and abundance. The 184 focal animal species identified in the SCMFA included 12 of high public interest; 31 federally listed as threatened or endangered or proposed for listing; and 141 others considered potentially vulnerable (at risk for population decline) by the analysis team and wildlife experts. The 255 focal plant species in the SCMFA included 32 federally listed as threatened, endangered or proposed for listing and 223 others considered potentially vulnerable by the analysis team and botanical experts.

The remaining vertebrate and vascular plant species known to occur in the mountains and foothills of southern California did not meet the above criteria and were determined to have very low vulnerability concerns (Stephenson and Calcarone 1999).

A team of biologists and botanists from the southern California national forests convened in November 2000, to review the species information in the SCMFA as a starting point for identifying species of concern for the forest plan revision process. The team consisted of Bill Brown (ANF), Maeton Freel (LPNF), Steve Loe (SBNF), Scott Eliason (SBNF) and Diane Freeman (Plan revision team representative). The team started with the SCMFA focal species list and then made updates and changes based on more recent information, specifically with regard to species status, distribution, and habitat group, adding or removing some species from further consideration during the forest plan revision process. The team documented its reasons for adding, retaining or dropping species from the list of species considered for analysis as species of conservation concern (information in Project Record).

The species identified as being of conservation concern fell into one or more of the following categories:

- SCMFA list of focal species
- Forest Service Regional Forester's Sensitive Species List for Region 5
- Federally listed as threatened, endangered, candidate, or proposed
- Former U.S. Fish and Wildlife Service candidate species, now "species of concern"
- State of California endangered, threatened, rare, or species of special concern
- Riparian Obligate Species of Concern as defined by California Partners in Flight
- Taxa from the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants of California* (fifth edition; Skinner and Pavlik 1994) on List 1B, any rediscovered List 1A; and taxa from List 2, List 3, and List 4 if the R-E-D code was 2-2-3, 2-3-3, 3-2-3, or 3-3-3 (for explanation of CNPS lists and codes see note at the end of this document)
- Heritage Rank of G1, G2, or G3, or GxT1, GxT2, or GxT3 (for explanation of ranks see note at the end of this document)
- Plants or animals considered "at risk" in adjacent county habitat conservation planning efforts

Subsequent to the biologist team review, a number of plant species were added to the species of concern list after publication of the sixth edition of the *Inventory of Rare and Endangered Plants of California* (California Native Plant Society 2001). Plants new to CNPS List 1B (which were also identified during a Regional Forester's sensitive species review process for plants) were evaluated for inclusion if not already included on the list.

For all species that were not specifically identified as being of conservation concern, the Forest Service felt that the amount and condition of natural habitats distributed across the planning area would provide the best indicator of whether viable populations of those species would be maintained through the Plan period. This coarse-filter approach is analyzed in Chapter 3 of the FEIS primarily within the section on vegetation management, with some discussion in the section on biodiversity. Further information was sought on the species of concern, and individual species accounts were prepared.

In total, 482 species (including subspecific taxa) were determined to be of potential conservation concern:

- 166 vertebrate animals
- 30 invertebrate animals
- 286 vascular plants

The species determined to be of potential conservation concern are listed in the following tables (see Table 467, Key to Codes Frequently Used in Biodiversity Tables):

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)								
Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Abies bracteata</i>	L/NSL	W	1B	3-1-3	G2	2.3	5	4
<i>Abronia nana</i> ssp. <i>covillei</i>	S/SB	S	4	1-2-1	G1	1.1	10	4
<i>Abronia villosa</i> var. <i>aurita</i>	S/pSD, pSA, SJ, pSB	-	1B	2-2-3	G5T3	3.1	3	4
<i>Acanthomintha ilicifolia</i>	C/SD	FT/CE	1B	2-3-2	G1	1.1	9	5
<i>Acanthoscyphus parishii</i> var. <i>abramsii</i>	L/SLP	S	1B	2-2-3	G4?T2	2.2	3.2	5
<i>Acanthoscyphus parishii</i> var. <i>cienegeensis</i>	S/SB	S	1B	3-1-3	G4?T1	1.3	5	4
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	S/SB	FE	1B	3-3-3	G4?T1	1.1	10	5
<i>Agrostis hooveri</i>	L/SSL	W	1B	2-3-3	G3	2.2	3	4
<i>Allium hickmanii</i>	L/NSL	W	1B	2-3-2	G2	2.2	19	5
<i>Allium howellii</i> var. <i>clokeyi</i>	L/CAS, SLP	W	1B	2-1-3	G3T3	2.3	8	3
<i>Allium marvinii</i>	pS/SB	-	1B	3-3-3	G1	1.1	3	2
<i>Allium munzii</i>	C/SA	FE/CT	1B	3-3-3	G1	1.1	9	5
<i>Allium parishii</i>	S/SA, SB	W	4	1-1-2	G3	3.3	10	2
<i>Androsace elongata</i> ssp. <i>acuta</i>	C,S,L/SD, SJ, SB, SLP	W	4	1-2-2	G?T3?	3.2	16	5
<i>Antennaria marginata</i>	C,S/SB	W	2	3-1-1	G4?	1.3	11	4
<i>Arabis breweri</i> var. <i>pecuniaria</i>	S/SJ,SG	S	1B	3-2-3	G4?T1	1.2	7	4
<i>Arabis dispar</i>	S/SB	W	2	2-1-1	G3	2.3	8	5
<i>Arabis johnstonii</i>	S/SJ	S	1B	3-2-3	G2	2.2	3.2	5
<i>Arabis parishii</i>	S/SB	S	1B	2-2-3	G2	2.1	11	5
<i>Arabis shockleyi</i>	S/SB	S	2	3-2-1	G3	2.2	10	4
<i>Arctostaphylos cruzensis</i>	L/NSL	S	1B	2-2-3	G2	2.2	6	5
<i>Arctostaphylos edmundsii</i>	L/NSL	S/CR	1B	3-2-3	G2	2.2	6	4
<i>Arctostaphylos hooveri</i>	L/SLP,SSL	-	4	1-1-3	G3	3.3?	3.2	3
<i>Arctostaphylos luciana</i>	A,L/SSL	S	1B	2-2-3	G2	2.2	3.2	4
<i>Arctostaphylos obispoensis</i>	L/SLP,SSL	-	4	1-1-3	G3	3?	3.2	3
<i>Arctostaphylos otayensis</i>	pC/SD	-	1B	3-2-3	G2	2.1	9	2

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Arctostaphylos peninsularis</i> ssp. <i>peninsularis</i>	pC/SD,SJ	S	2	3-1-1	G2T2	2?	3.2	1
<i>Arctostaphylos pilosula</i>	L/SSL	S	1B	3-2-3	G2	2.2	3.2	4
<i>Arctostaphylos rainbowensis</i>	C/SD	S	1B	3-3-3	G2	2.1	3.2	4
<i>Arctostaphylos refugioensis</i>	L/SLP	S	1B	2-2-3	G2	2?	3.2	4
<i>Arenaria lanuginosa</i> ssp. <i>saxosa</i>	S/SB	-	2	3-1-1	G5T5	1.3	7	5
<i>Arenaria macradenia</i> var. <i>kuschei</i>	A/SA	S	1B	3-3-3	G5?T2?	1.1	3.2	5
<i>Arenaria paludicola</i>	pS/SB	FE/CE	1B	3-3-2	G1	1.1	1.1	2
<i>Arenaria ursina</i>	S/SB	FT	1B	2-2-3	G2	2.1	11	5
<i>Artemisia palmeri</i>	/SD	-	4	1-2-1	G3	3.2	1.1	1
<i>Astragalus albens</i>	S/SB	FE	1B	3-3-3	G1	1.1	10	5
<i>Astragalus bicristatus</i>	S,pA/SJ,SB,SG	S	4	1-1-3	G3	3.3	5	4
<i>Astragalus brauntonii</i>	pC,pA/SA,SG,SLP	FE	1B	3-3-3	G2	2.1	3	2
<i>Astragalus deanei</i>	C/SD	S	1B	3-3-3	G2	2.1	1.1	4
<i>Astragalus douglasii</i> var. <i>perstrictus</i>	C/SD	S	1B	2-2-2	G5T2	2.2	2	4
<i>Astragalus lentiginosus</i> var. <i>antonius</i>	pS,A/SG	S	1B	3-1-3	G5T1	1?	5	4
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	pS/SJ	FE	1B	2-2-3	G5T2	2.1	18	2
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	S/SB	S	1B	2-2-3	G5T1	1?	8	5
<i>Astragalus leucolobus</i>	pC,S,A,pL/SJ,SB,SG	W	1B	2-2-3	G2	2.2	8	3
<i>Astragalus oocarpus</i>	C/SD	S	1B	3-2-3	G2	2.2	3.2	5
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	C,pS/SD,SJ	S	1B	3-3-3	G?T1	1.1	3	5
<i>Astragalus tricarinatus</i>	pS/SJ	FE	1B	3-2-3	G1	1.2	18	2
<i>Atriplex parishii</i>	pS/SJ,SB	S	1B	3-3-2	G1G2	1.1	17	2
<i>Baccharis plummerae</i> ssp. <i>glabrata</i>	pL/NSL	W	1B	3-2-3	G3T1	1.2	3	2
<i>Baccharis vanessae</i>	C/SD	FT/CE	1B	2-3-3	G1	1.1	3	4
<i>Berberis nevini</i>	C/SD,pSA,pS,A/SB,SG	FE/CE	1B	3-3-3	G2	2.2	3	5
<i>Bloomeria humilis</i>	pL/NSL	W	1B	3-2-3	G1	1.1	3	2
<i>Botrychium crenulatum</i>	S,pA/SB	S	2	2-2-1	G3	2.2	13	5
<i>Boykinia rotundifolia</i>	pC,S,A,pL/SD,SA,SJ,SB,SG,SLP	W	n/a	-	-	-	1	4

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Brodiaea filifolia</i>	pC,pS,pA/SD,SJ,SB	FT/CE	1B	3-3-3	G2	2.1	9	2
<i>Brodiaea orcuttii</i>	C/SD,SA,SJ,SB	S	1B	1-3-2	G3	3.1	9	4
<i>Calochortus clavatus</i> var. <i>gracilis</i>	A/SG	-	1B	3-2-3	G4T1	1.1?	3.2	5
<i>Calochortus dunnii</i>	C/SD	S/CR	1B	2-2-3	G2	2.1	9	5
<i>Calochortus obispoensis</i>	L/SLP,NSL	S	1B	2-2-3	G2	2.2	12	5
<i>Calochortus palmeri</i> var. <i>munzii</i>	S/SJ	S	1B	3-2-3	G2T1	1.2	13	5
<i>Calochortus palmeri</i> var. <i>palmeri</i>	S,A,L/SB,SG,CAS,SLP	S	1B	2-2-3	G2T2	2.1	13	5
<i>Calochortus plummerae</i>	S,A,pL/SA,SJ,SB,SG	S	1B	2-2-3	G3	3.2	3.2	4
<i>Calochortus simulans</i>	pL/SLP,SSL	W	1B	2-1-3	G3	2.3	16	5
<i>Calochortus striatus</i>	pS,pA/SB	S	1B	2-2-2	G2	2.2	18	2
<i>Calochortus weedii</i> var. <i>intermedius</i>	C/SD,SA	S	1B	2-2-3	G3T2	2.2	3.1	4
<i>Calochortus weedii</i> var. <i>vestus</i>	L/SLP,NSL	S	1B	2-2-3	G3T2	2.2	3	3
<i>Calycadenia villosa</i>	L/NSL	S	1B	2-3-3	G2	2.1	19	4
<i>Calyptridium pygmaeum</i>	S/SB	-	n/a	-	-	-	5	4
<i>Calystegia peirsonii</i>	A/SG	-	4	1-2-3	G3	3.2	16	4
<i>Calystegia subacaulis</i> ssp. <i>episcopalis</i>	pL/SSL	W	1B	3-2-3	G3T1	1.2	3	2
<i>Camissonia hardhamiae</i>	L/SLP,SSL	W	1B	3-2-3	G1Q	1.2	3	5
<i>Canbya candida</i>	pS,A/SB	S	4	1-2-3	G3	3.2	8	5
<i>Carex obispoensis</i>	L/SLP,NSL	S	1B	2-2-3	G2	2.2	16	5
<i>Carlquistia muiri</i>	L/NSL	S	1B	2-1-3	G2	2.3	21	4
<i>Castilleja cinerea</i>	S/SB	FT	1B	2-2-3	G2	2.2	11	5
<i>Castilleja gleasonii</i>	A/SG	S/CR	1B	3-2-3	G2Q	2.2	5	5
<i>Castilleja lasiorhyncha</i>	pC,S/SB	S	1B	2-2-3	G2	2.2	13	5
<i>Castilleja montigena</i>	S/SB	W	4	1-1-3	G3	3.3	5	4
<i>Castilleja plagiotoma</i>	S,A,pL/SA,SB	W	4	1-1-3	G3	3.3	11	5
<i>Caulanthus amplexicaulis</i> var. <i>barbarae</i>	L/SLP	S	1B	3-1-3	G3?T1	1.2	12	5
<i>Caulanthus californicus</i>	/pSLP	FE/CE	1B	3-3-3	G1	1.1	8	1
<i>Caulanthus lemmonii</i>	L/SLP,SSL,NSL	W	1B	2-2-3	G4T2	2.2	16	5
<i>Caulanthus simulans</i>	C,S/SD	S	4	1-2-3	G3	3.2	8	4

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Ceanothus cyaneus</i>	C/SD	S	1B	3-2-2	G2	2.2	3.2	4
<i>Ceanothus ophiochilus</i>	C/SB	FT/CE	1B	3-3-3	G1	1.1	3.2	4
<i>Centromadia pungens</i> ssp. <i>laevis</i>	pC/SD,SA,SB	-	1B	2-2-3	G5T2	2.1	17	2
<i>Chaenactis parishii</i>	C,S/SD,SJ,SB	-	1B	2-1-2	G3	2.3	3.2	4
<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	L/SLP	-	1B	2-2-3	G5T1	1.2	12	3
<i>Chlorogalum purpureum</i> var. <i>reductum</i>	L/SSL	FT/CR	1B	3-3-3	G1T1	1.1	12	5
<i>Chorizanthe blakleyi</i>	L/SLP	S	1B	2-1-3	G3	2.3	3.2	5
<i>Chorizanthe breweri</i>	L/SLP,NSL	S	1B	3-1-3	G2	2.2	12	4
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	pSLPS	FC/CE	1B	3-3-3	G2T1	S1.1	17	1
<i>Chorizanthe parryi</i> var. <i>parryi</i>	S/SA	S	3	?-2-3	G2T2?	2.1	17	2
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	C,S/SD,SB	S	1B	2-2-2	G5T3	2.2	3.2	4
<i>Chorizanthe procumbens</i>	C,pS,pA/SD,SB	-	n/a	-	-	-	9	3
<i>Chorizanthe rectispina</i>	L/SSL	S	1B	3-1-3	G1	1.2	3	4
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	S/SJ,SB,SG	W	1B	2-2-3	G4T3	S1S2.2	8	4
<i>Clarkia delicata</i>	C/SD	S	1B	2-2-2	G2	2.2	9	4
<i>Clarkia jolonensis</i>	L/NSL	W	1B	3-2-3	G2	2.2	3	5
<i>Claytonia lanceolata</i> var. <i>peirsonii</i>	S,A/SG	S	1B	3-3-3	G5T1Q	1.1	7	5
<i>Cupressus forbesii</i>	C/SD,SA	S	1B	3-3-2	G2	1.1	3.2	4
<i>Cupressus sargentii</i>	L/SLP,NSL	-	n/a	-	-	-	3.2	3
<i>Cupressus stephensonii</i>	C/SD	S	1B	3-3-3	G1	1.2	3.2	5
<i>Deinandra floribunda</i>	pC/SD	S	1B	2-2-2	G3	2.2	1.1	2
<i>Deinandra mohavensis</i>	C,S,pA/SD,SJ,SB	S/CE	1B	2-1-3	G2	2.3	1	4
<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i>	C,S/SD,SJ	S/CR	1B	2-2-3	G4T2	2.1	13	5
<i>Delphinium hutchinsoniae</i>	L/NSL	S	1B	3-2-3	G2	2.1	6	5
<i>Delphinium inopinum</i>		S	4	1-1-3	G3	3.3	8	1
<i>Delphinium parryi</i> ssp. <i>purpureum</i>	L/SLP	-	4	1-1-3	G4T3	3.3	16	4
<i>Delphinium umbraculorum</i>	L/SLP,SSL,NSL	W	1B	2-1-3	G3	S2S3.3	2	3
<i>Dieteria asteroides</i> var. <i>lagunensis</i>	C,pS/SD	S/CR	2	3-3-1	G5T2T3	1.1	13	5
<i>Dieteria canescens</i> var. <i>ziegleri</i>	S/SJ	S	1B	3-2-3	G5T1	1.1	5	5

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Dodecahema leptoceras</i>	C,S/SD,SJ,SB,SG	FE/CE	1B	3-3-3	G1	1.1	17	5
<i>Downingia concolor</i> var. <i>brevior</i>	pC/SD	CE	1B	3-3-3	G4T1	1.1	13	2
<i>Draba corrugata</i> var. <i>saxosa</i>	S/SJ	-	1B	2-1-3	G2T2	2.3	7	4
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	S/SB	S	1B	2-2-3	G3T2	2.2	8	5
<i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>	A/SG	W	1B	3-2-3	G5T1	1.2	3.2	4
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	C,pA/SA	FT	1B	3-2-3	G5T2Q	2.2	3	4
<i>Dudleya densiflora</i>	A/SG	S	1B	3-3-3	G1	1.1	1.1	5
<i>Dudleya multicaulis</i>	C,A/SD,SA,SG	S	1B	1-2-3	G2	2.1	3.1	4
<i>Dudleya viscida</i>	C/SD	S	1B	2-2-3	G2	2.2	3.1	4
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	S/SB	FE/CE	1B	3-3-3	G4T1	1.1	17	2
<i>Eriastrum hooveri</i>	L/SLP	S	4	1-2-3	G3	3.2	16	4
<i>Eriastrum luteum</i>	pL/SSL	W	1B	2-2-3	G2	2.2	2	2
<i>Ericameria cuneata</i> var. <i>macrocephala</i>	C/SD	-	1B	2-1-3	G5T2?	2.3	8	4
<i>Ericameria palmeri</i> var. <i>palmeri</i>	/SD	-	2	3-2-1	G4T2T3	1.1	1.1	1
<i>Erigeron breweri</i> var. <i>jacintus</i>	S/SJ,SB,SG	W	4	1-1-3	G4G5T3	3.3	5	4
<i>Erigeron parishii</i>	S/SA, SB	FT	1B	2-3-3	G2	2.1	10	5
<i>Erigeron uncialis</i> var. <i>uncialis</i>	pS/SB	S	2	3-2-1	G?T3?	1	10	1
<i>Eriogonum butterworthianum</i>	L/NSL	S/CR	1B	3-1-3	G1	1.3	3.2	4
<i>Eriogonum evanidum</i>	pC,S/SD,SJ,SB	W	1B	3-2-2	G3	H	8	5
<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	S,pA,L/SB,SLP	S	1B	2-1-3	G4T2	2.3	7	4
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	S/SB	FT	1B	2-2-3	G4T2	2.2	11	5
<i>Eriogonum microthecum</i> var. <i>corymbosoides</i>	S,pA/SB	W	n/a	-	-	-	10	4
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	S,A/SB,SG	S	1B	3-1-3	G5T1	1.2	7	4
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	S/SB	FE	1B	3-3-3	G5T1	1.1	10	5
<i>Eriogonum umbellatum</i> var. <i>minus</i>	S,A/SB,SG	W	4	1-1-3	G5T3	3.3	7	4
<i>Eriophyllum lanatum</i> var. <i>hallii</i>	L/SLP	S	1B	3-3-3	G5T1	1.1	19	4
<i>Eriophyllum lanatum</i> var. <i>obovatum</i>	S/SB	W	4	1-1-3	G5T3	3.3	5	4
<i>Fritillaria falcata</i>	L/NSL	S	1B	3-2-3	G2	2.2	12	4

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Fritillaria liliacea</i>	pL/NSL	W	1B	2-2-3	G2	2.2	16	2
<i>Fritillaria ojaiensis</i>	L/SLP,SSL,NSL	S	1B	3-2-3	G1	1.2	16	4
<i>Fritillaria viridea</i>	L/NSL	S	1B	2-2-3	G3	3.2	12	4
<i>Galium angustifolium</i> ssp. <i>gabrielense</i>	pS,A/SG	W	4	1-1-3	G5T2	2.3	3.2	4
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	S/SJ	S	1B	3-1-3	G5T1	1.3	5	5
<i>Galium californicum</i> ssp. <i>lucienne</i>	L/NSL	S	1B	3-1-3	G5T2	2.3	6	4
<i>Galium californicum</i> ssp. <i>primum</i>	S/SJ	S	1B	3-2-3	G5T1	1.1	5	5
<i>Galium clementis</i>	L/NSL	W	1B	2-1-3	G2	2.3	5	4
<i>Galium grande</i>	A/SG	S	1B	3-1-3	G1	1.2	4	5
<i>Galium hardhamiae</i>	L/NSL	S	1B	2-1-3	G2	2.3	12	4
<i>Galium jepsonii</i>	pS,A/SG	W	4	1-1-3	G3	3.3	5	4
<i>Galium johnstonii</i>	pC,S,A/SJ,SB,SG	W	4	1-1-3	G3	3.3	5	4
<i>Gentiana fremontii</i>	S/SB	-	2	3-1-1	G4	2.3	7	5
<i>Geraea viscida</i>	C/SD	-	2	2-1-1	G3	2.3?	8	4
<i>Gilia leptantha</i> ssp. <i>leptantha</i>	S/SB	-	1B	2-1-3	G4T2	2.3	5	4
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>	pC/SD,SB	S	3	?-3-3	G51Q	1.1	2	2
<i>Grindelia hirsutula</i> var. <i>hallii</i>	C/SD	-	1B	2-2-3	G5T2	2.1	13	4
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	pS,pA/SB	W	1A		G5TH	H	1.1	2
<i>Heuchera abramsii</i>	pS,A/SG	W	4	1-1-3	G3	3.3	7	4
<i>Heuchera brevistaminea</i>	C/SD	-	1B	3-1-3	G2	2.3	8	4
<i>Heuchera elegans</i>	S/SG	W	4	1-1-3	G3	3.3	5	4
<i>Heuchera hirsutissima</i>	S/SJ	S	1B	3-1-3	G2	2.3	7	4
<i>Heuchera parishii</i>	S/SJ,SB	S	1B	2-1-3	G2	2.3	5	4
<i>Holocarpha virgata</i> ssp. <i>elongata</i>	C/SD	-	4	1-2-3	G5T3	3.2	3.1	4
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	pS,L/SLP,SSL	W	1B	2-3-3	G4T2	2.1	3	2
<i>Horkelia cuneata</i> ssp. <i>sericea</i>	pL/SLP,SSL,NSL	W	1B	3-3-3	G4T1	1.1	3	2
<i>Horkelia truncata</i>	C/SD	S	1B	3-1-2	G3	2.3	9	4
<i>Horkelia wilderae</i>	S/SB	S	1B	3-3-3	G1	1.1	5	4
<i>Horkelia yadonii</i>	L/SLP,NSL	-	4	1-2-3	G3	3.2	13	5

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Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Hulsea californica</i>	C/SD	-	1B	2-1-3	G2	2.1	5	4
<i>Hulsea vestita</i> ssp. <i>callicarpa</i>	C,S/SD,SJ	W	4	1-2-3	G5T3	3.2	5	4
<i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	pS,A/SG,SLP	W	4	1-1-3	G5T3	3.3	5	4
<i>Hulsea vestita</i> ssp. <i>parryi</i>	S/SB	W	4	1-1-3	G5T3	3.3	5	4
<i>Hulsea vestita</i> ssp. <i>pygmaea</i>	S/SB	-	1B	2-1-3	G5T2	2.3	7	4
<i>Ivesia argyrocoma</i>	S/SB	S	1B	2-2-2	G2	2.2	11	5
<i>Ivesia callida</i>	S/SJ	S	1B	3-1-3	G1	1.3	5	4
<i>Juglans californica</i>	S,A,L/SD,SA,SB,SG	-	4	1-2-3	G3	3.2	2	4
<i>Juncus duranii</i>	S/SJ,SB,SG	W	4	1-1-3	G3	3.3	13	5
<i>Layia heterotricha</i>	L/SLP	S	1B	3-3-3	G1	1.1	19	3
<i>Layia jonesii</i>	pL/SSL,NSL	W	1B	3-2-3	G4	1.1	3	2
<i>Lepechinia cardiophylla</i>	C/SD,SA	S	1B	3-2-3	G2	2.2	3.2	4
<i>Lepechinia fragrans</i>	pS,A/SG/SLP	W	4	1-2-3	G3	3.2	3.2	5
<i>Lepechinia ganderi</i>	C/SD,SA	-	1B	3-1-2	G2	2.2	16	1
<i>Lepidium flavum</i> var. <i>felipense</i>	/SD	-	1B	3-2-3	G5T1	1.2	8	1
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	C/SD	-	1B	3-2-3	G5T2?	H	3.1	3
<i>Leptosiphon floribundus</i> ssp. <i>hallii</i>	S/SJ	S	1B	3-1-3	G4T1	1.3	8	5
<i>Lessingia glandulifera</i> var. <i>tomentosa</i>	pC/SD	S	1B	2-1-3	G4?T2	2.3	3.2	2
<i>Lewisia brachycalyx</i>	pC,S/SD,SB	-	2	2-2-1	G5	3.2	13	4
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	C,S,A,L/SD,SA,SJ,SB,SG,CAS,SL P	W	4	1-2-3	G4T3	3.2	1	5
<i>Lilium parryi</i>	C,S,A/SJ,SB,SG	S	1B	2-2-3	G3	2.1	13	4
<i>Limnanthes gracilis</i> ssp. <i>parishii</i>	C/SD,SJ	S/CE	1B	2-2-3	G3T2	2.2	13	5
<i>Linanthus concinnus</i>	pS,A/SB	S	1B	3-2-3	G2	2?	5	5
<i>Linanthus jaegeri</i>	S/SJ	S	1B	2-2-3	G2	2.2	7	4
<i>Linanthus killipii</i>	S/SB	S	1B	2-2-3	G2	2.1	11	5
<i>Linanthus orcuttii</i>	C,pA/SD	S	1B	2-1-2	G4	2.3	5	4
<i>Lonicera subspicata</i> var. <i>subspicata</i>	pL/SLP	W	1B	2-2-3	G5T2	2.2	3	2
<i>Lupinus ludovicianus</i>	L/SSL	S	1B	3-2-3	G2	2.2	19	5

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<i>Malacothamnus aboriginum</i>	C,pL/SD	-	1B	2-2-3	G3	3.2	3.2	1
<i>Malacothamnus davidsonii</i>	A,pL/SG,pSLP	W	1B	2-2-3	G1	1.1	3.1	4
<i>Malacothamnus palmeri</i> var. <i>involutus</i>	pL/SSL	W	1B	2-2-3	G4T2Q	2.2	3	2
<i>Malacothamnus palmeri</i> var. <i>lucianus</i>	L/NSL	S	1B	3-2-3	G4T1Q	1.2	3.2	5
<i>Malacothamnus palmeri</i> var. <i>palmeri</i>	pL/SSL	W	1B	2-2-3	G4T2Q	2.2	3	2
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i>	L/NSL	S	1B	3-2-3	G5T2	2.2	3.2	4
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	S,pA/SJ,SB	S	2	3-3-1	G?T4	1.1	13	5
<i>Marina orcuttii</i> var. <i>orcuttii</i>	S/SJ	S	1B	3-1-2	G?T1T2	1.3	8	5
<i>Matelea parvifolia</i>	S/SJ,pSB	-	2	3-1-1	G5?	2.2	18	5
<i>Microseris douglasii</i> ssp. <i>platycharpha</i>	/SD	-	4	1-2-2	G4T3	3.2	19	4
<i>Mimulus clevelandii</i>	C/SD	-	4	1-2-2	G3G4	3.2	5	4
<i>Mimulus diffusus</i>	/SD	-	4	1-1-1	G4Q	3.3	3.2	3
<i>Mimulus exiguus</i>	S/SB	S	1B	2-2-2	G2	2.2	13	5
<i>Mimulus purpureus</i>	S/SB	S	1B	2-2-2	G2	2.2	11	5
<i>Monardella cinerea</i>	S,pA/SG	W	4	1-1-3	G3	3.3	5	4
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	C/SD	S	1B	2-2-2	G4T2	2.2	9	4
<i>Monardella linoides</i> ssp. <i>oblong</i>	L/SLP	S	1B	3-1-3	G5T2	2.2	5	3
<i>Monardella macrantha</i> ssp. <i>hallii</i>	C,S,A/SD,SA,SJ,SB,SG	S	1B	2-1-3	G5T3	3.3	16	4
<i>Monardella nana</i> ssp. <i>leptosiphon</i>	C,S/SD,SJ	S	1B	3-2-2	G4G5T2	2.2	5	4
<i>Monardella palmeri</i>	L/SSL	W	1B	2-2-3	G3	2.2	3	4
<i>Monardella viridis</i> ssp. <i>saxicola</i>	C,S,A/SG	S	4	1-2-3	G3T3	3.2	3.2	4
<i>Muhlenbergia californica</i>	S,A/SJ,SB,SG	W	4	1-1-3	G3	3.3	1	4
<i>Muilla coronata</i>	S/SA, SB	W	4	1-2-2	G3Q	3.2?	8	2
<i>Nasturtium gambelii</i>	pC,pS/SD,SB	FE/CT	1B	3-2-2	G1	1.1	1.1	2
<i>Navarretia peninsularis</i>	pC,S,pA,L/SD,SB,SLP	S	1B	2-2-2	G3?	2.2	13	4
<i>Nolina cismontana</i>	C/SD,SA	S	1B	3-2-3	G1	1.1	3.1	4
<i>Nolina interrata</i>	/SD	CE	1B	3-3-2	G1	1.2	9	1
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	pC,S,A/SD,SJ,SB	S	1B	3-2-3	G5T1	1.2	8	4
<i>Oreonana vestita</i>	S,A/SB,SG	W	1B	2-1-3	G3	3.3	7	4

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Orobanche valida</i> ssp. <i>valida</i>	A,L/SG,SLP	S	1B	3-2-3	G3T1	1.2	3.2	4
<i>Oxytropis oreophila</i> var. <i>oreophila</i>	S/SB	-	2	3-1-1	G4T4	2.3	7	4
<i>Packera bernardina</i>	S/SB	S	1B	2-2-3	-	-	13	5
<i>Packera ganderi</i>	C/SD	S/CR	1B	3-2-3	-	-	9	5
<i>Packera ionophylla</i>	S,A/SB,SG	W	4	1-1-3	-	-	5	4
<i>Parnassia cirrata</i> var. <i>cirrata</i>	S/SB,SG	-	1B	2-1-3	G2	2.3	5	5
<i>Pedicularis dudleyi</i>	L/SB,NSL	S/CR	1B	3-2-3	G2	2.2	12	4
<i>Penstemon californicus</i>	pC,S/SJ	S	1B	3-2-2	G3?	2.2	8	5
<i>Pentachaeta exilis</i> ssp. <i>aeolica</i>	L/SB,NSL	S	1B	3-2-3	G5T1	1.2	2	5
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	pC,pA,L/NSL	-	4	1-2-3	G5T3	3.2	6	3
<i>Perideridia parishii</i> ssp. <i>parishii</i>	S/SB	-	2	2-2-1	G4T3T4	2.2?	13	4
<i>Phacelia exilis</i>	S/SB	W	4	1-1-3	G3Q	3.3	5	5
<i>Phacelia mohavensis</i>	S/SB,SG	W	4	1-1-3	G3Q	3.3	8	5
<i>Phacelia suaveolens</i> ssp. <i>keckii</i>	C/SD,SA	S	1B	3-1-3	G4T1	1.3	3.2	4
<i>Phlox dolichantha</i>	S/SB	S	1B	2-2-3	G2	2.2	5	5
<i>Physaria kingii</i> ssp. <i>bernardina</i>	S/SB	FE	1B	3-3-3	G5T1	1.1	10	5
<i>Pinus attenuata</i>	S,L/SA,pSB,SSL,NSL	-	n/a	-	-	-	3.2	3
<i>Piperia leptopetala</i>	pA,C,pL,S/pCAS,pNSL,SB,SD	W	4	1-1-3	G3	3.3	5	5
<i>Plagiobothrys uncinatus</i>	L/SB,SLP	S	1B	2-2-3	G2	2.2	3.2	4
<i>Poa atropurpurea</i>	C,S/SD,SB	FE	1B	2-2-3	G2	2.2	13	5
<i>Podistera nevadensis</i>	S/SB	W	4	1-1-3	G3	3.3	7	5
<i>Polygala cornuta</i> var. <i>fishiae</i>		-	2	2-1-1	G5T4	3.3	3.2	3
<i>Populus tremuloides</i>	S/SB	-	n/a	-	-	-	7	4
<i>Potentilla glanulosa</i> ssp. <i>ewanii</i>	A/SG, S/SB	-	1B	3-1-3	G5T1	1.3	1.3	4
<i>Potentilla rimicola</i>	S/SJ	S	2	3-1-1	G2G4	1.3	7	4
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	S/SB	S	1B	2-2-3	G5T2	2.2	13	5
<i>Quercus dumosa</i>	L/SD,SB,SLP	S	1B	2-3-2	G2	1.1	3	2
<i>Quercus engelmannii</i>	C,A/SD,SJ,SG	-	4	1-2-2	G3	3.2	2	4
<i>Quercus lobata</i>	L/SG,SLP,NSL	-	n/a	-	-	-	2	4

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Ribes canthariforme</i>	C,pS/SD	S	1B	3-1-3	G1	1.3	3.2	4
<i>Romneya coulteri</i>	/SD,SA	-	4	1-2-3	G3	3.2	3	4
<i>Rupertia rigida</i>	C,S/SD,SJ,SB	W	4	1-1-2	G1	1.2	7	4
<i>Sanicula maritima</i>	L/SSL,NSL	S/CR	1B	3-2-2	G2	2.2	12	5
<i>Satureja chandleri</i>	C/SD,SA,SJ	S	1B	2-2-2	G4	3.2?	9	4
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	C,S/SD,SJ,SB	S	1B	2-2-3	G4T2	2.2?	1	4
<i>Sedum niveum</i>	S/SJ,SB	S	4	1-2-2	G3	3.2	5	5
<i>Sibaropsis hammittii</i>	C/SA	S	1B	3-2-3	G2	2.2	9	5
<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	L/SSL	S/CR	1B	3-2-3	G3T1	1.2	12	4
<i>Sidalcea hickmanii</i> ssp. <i>hickmani</i>	L/NSL	S	1B	2-1-3	G3T2	2.3	3.2	5
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	S,pA,L/SB,SLP,SSL	FC/S/CR	1B	3-2-3	G3T1	1.2	3.2	5
<i>Sidalcea pedata</i>	S/SB	FE/CE	1B	3-3-3	G1	1.1	13	5
<i>Sidotheca caryophylloides</i>	S,pA,pL/SA,SB	W	4	1-1-3	G3	3.3	5	4
<i>Sidotheca emarginata</i>	S/SJ	S	1B	2-1-3	G2	2.3	3.2	5
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	pL/SSL,NSL	W	1B	2-2-3	G2T2	2.2	3	4
<i>Streptanthus bernardinus</i>	C,S/SD,SJ,SB,SG	S	4	1-1-3	G3	3.3	5	4
<i>Streptanthus campestris</i>	C,S,L/SD,SA,SJ,SB,SG,SLP	S	1B	2-1-2	G2	2.3	8	4
<i>Stylocline masonii</i>	A,L/SA	-	1B	3-3-3	G1	1.1	8	2
<i>Swertia neglecta</i>	S,A,L/SB,SG,SLP	S	4	1-1-3	G3	3.3	8	3
<i>Symphyotrichum greatae</i>	pS,A/SG	-	1B	2-1-3	G2	2.3	3.2	4
<i>Syntrichopappus lemmonii</i>	S,pA,pL/SA,SB	W	4	1-1-3	G3	3.3	8	4
<i>Taraxacum californicum</i>	S/SB	FE	1B	3-2-3	G2	2.1	13	5
<i>Tetracoccus dioicus</i>	C/SD	S	1B	3-2-2	G3	2.2	9	2
<i>Thelypodium stenopetalum</i>	S/SB	FE/CE	1B	3-3-3	G1	1.1	13	5
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	S,pA,L/SB,SLP	W	2	2-2-1	G5T3T4	2.2?	1.1	4
<i>Thermopsis californica</i> var. <i>semota</i>	C/SD	S	1B	2-2-3	G3QT2Q	2.1	13	4
<i>Thermopsis macrophylla</i>	L/SB	S/CR	1B	3-1-3	G1	1.2	3.2	5
<i>Triteleia ixioides</i> ssp. <i>cookii</i>	pL/SSL	W	1B	2-1-3	G5T2	2.3	2	4

Table 360. Plant Species Evaluated for Viability Concerns (Species of Concern)

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	S	Hab Grp	FS Threat Cat
<i>Tropidocarpum capparideum</i>	pL/NSL	W	1A	-	GH	H	19	2
<i>Viola aurea</i>	pC,pS,pA/SD,SB,SG	W	2	2-2-1	G3G4	S2S3.3	8	2
<i>Viola pinetorum</i> ssp. <i>grisea</i>	pS/SB	S	1B	3-1-3	G4G5T1	1.3	7	2

286 species.

FC Federal candidate

W Watch list Status on Federal lands is based on the current Region 5 southern California forests Sensitive Species list and individual forests Watch lists as of July 2005.

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
Arboreal salamander	Amphib	y	y	y	y			G5		S4	2	4
Arroyo toad	Amphib	y	y	y	y	FE	SSC	G2/3		S2/3	1.3	6
California (Pacific) giant salamander	Amphib			y				G3		S5	1.3	4
California red-legged frog	Amphib	y	h/p	y	h/p	FT	SSC	G4	T2/3	S2/3	1.3	5
California tiger salamander	Amphib					FE - C	SSC	G2/3		S2/3	17.1	1
Coast range newt	Amphib	y	y	y	p		SSC	G5	T?	S3	1.3	5
Foothill yellow-legged frog	Amphib	h		y		S	SSC	G3		S2/3	1.3	4
Large-blotched ensatina salamander	Amphib		y		y	S	SSC	G5	T2/3	S2/3	4	4
Monterey ensatina salamander	Amphib	y	y	y	y			G5	T4	S?	2	3
Mountain yellow-legged frog	Amphib	y	h		y	FE	SSC	G2/3		S2	1.3	5
San Gabriel Mtn. slender salamander	Amphib	y			y	S		G1		S1	4	4
Tehachapi slender salamander	Amphib	p		p		S	CT	G2		S2	4	2
Western spadefoot	Amphib	p	y	y	y		SSC	G3		S3?	17	5
Yellow-blotched ensatina salamander	Amphib	p		y	y	S	SSC	G5	T2/3	S2/3	4	4
American dipper	Bird	y	h/p	y	y			G5		S5	1.2	5
American peregrine falcon	Bird	y	y	y	y	S	CE	G4	T3	S2	16.1	4
American pipit (water pipit)	Bird	w	w	w	y/w			G5		S2	7	4

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
Bald eagle	Bird	w	w	w	y	FT	CE	G4		S2	14	5
Band-tailed pigeon	Bird	y	y	y	y			G4		S?	4	3
Bell's sage sparrow	Bird	y	y	y	y		SSC	G5	T2/4	S2?	3	3
Bendire's thrasher	Bird				y		SSC	G4/5		S3	18	1
Black swift	Bird	y	p	p	y		SSC	G4		S2	1	5
Burrowing owl	Bird		p	p	p		SSC	G4		S2	19	4
California brown pelican	Bird			y		FE	CE	G4	T3	S1/2	6	4
California condor	Bird	h	h	y	y	FE	CE	G1		S1	16.1	5
Coastal California gnatcatcher	Bird		y		p	FT	SSC	G3		S2	3.1	5
California least tern	Bird			p		FE	CE	G4	T2/3	S2/3	6	2
California quail	Bird	y	y	y	y			G5		S5	16	3
California spotted owl	Bird	y	y	y	y	S	SSC	G3	T3	S3	4	6
Calliope hummingbird	Bird	y	p	y	y			G5		S4	13	5
Cassin's vireo (solitary)	Bird	y	y	y	y			G5		S?	4	4
Chukar	Bird	p	p	y	y			G5		S?	8	4
Common nighthawk	Bird	y			y			G5		S3	8	4
Common yellowthroat	Bird	y	y	y	y			G5		S3	1.1	5
Cooper's hawk	Bird	y	y	y	y		SSC	G5		S3	1	3
Flammulated owl	Bird	y	y	y	y			G4		S?	5.1	5
Golden eagle	Bird	y	y	y	y		SSC	G5		S3	16.1	5
Gray flycatcher	Bird	p			y			G5		S5	8	4
Gray vireo	Bird	y	y		y		SSC	G4		S2	8	4
Hepatic tanager	Bird				y		SSC	G5		S1	8	4
Hermit thrush	Bird	y	w	y	y			G5		S5	5.3	4
Lawrence's goldfinch	Bird	y	y	y	y			G3/4		S3	1.1	3
Le Conte's thrasher	Bird	p		p	y		SSC	G3		S3	18	2
Least Bell's vireo	Bird	p	y	y	p	FE	CE	G5	T2/3	S2	1.1	5
Lincoln's sparrow	Bird	y	w	y	y			G5		S?	13	5

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
Loggerhead shrike	Bird	y	y	y	y		SSC	G4		S4	19	4
Long-eared owl	Bird	y	y	y	y		SSC	G5		S3	2	5
MacGillivray's warbler	Bird	y	t	p	y			G5		S?	13.1	5
Marbled murrelet	Bird			y		FT	CE	G3		S1	4	2
Mount Pinos blue grouse	Bird			h/p				G4	TU	S?	5.3	4
Mountain quail	Bird	y	y	y	y			G5		S?	16	3
Mourning dove	Bird	y	y	y	y			G5		S?	16	3
Nashville warbler	Bird	y	y	y	y			G5		S?	4	4
Northern goshawk	Bird	y	t	y	y	S	SSC	G5		S3	5	4
Northern pygmy owl	Bird	y	y	y	y			G5		S?	4	4
Northern saw-whet owl	Bird	y	y	y	y			G5		S?	5	4
Olive-sided flycatcher	Bird	y	y	y	y			G4		S4	5.2	3
Osprey	Bird	y	y	y	y		SSC	G5		S3	14	2
Pinyon jay	Bird	p		y	y			G5		S5	8	4
Plumbeus vireo (solitary)	Bird	y			y			G5		S?	8	4
Prairie falcon	Bird	y	y	y	y		SSC	G5		S3	16.1	5
Purple martin	Bird	y	y	y	y		SSC	G5		S3	4	5
San Diego cactus wren	Bird	y	p		h/p	S	SSC	G5	T2?Q	S2?	3.1	2
Sharp-shinned hawk	Bird	y	y	y	y		SSC	G5		S3	5	4
Southern California rufous-crowned sparrow	Bird	y	y	y	y		SSC	G5	T2/4	S2/3	3.1	3
Southern white-headed woodpecker	Bird	y	y	y	y			G5	T2/4	S2/3	5	3
Southwestern willow flycatcher	Bird	y	y	y	y	FE		G5	T1/2	S1	1.1	5
Summer tanager	Bird	y	t		t		SSC	G5		S2	18	4
Swainson's hawk	Bird	p	t	p	t	S	CT	G4		S2	19	2
Swainson's thrush	Bird	y	y	y	y			G5		S4	1.1	5
Tree swallow	Bird	y	y	y	y			G5		S5	1	4
Turkey vulture	Bird	y	y	y	y			G5		S5	16	5
Vaux's swift	Bird	t			t		SSC	G5		S3	4	2

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
Virginia's warbler	Bird	y	t	t	y		SSC	G5		S2/3	5	4
Warbling vireo	Bird	y	y	y	y			G5		S4	1	4
Western screech owl	Bird	y	y	y	y			G5		S?	2	3
Western snowy plover	Bird			y		FT	SSC	G4	T3	S2	6	5
Western yellow-billed cuckoo	Bird	p	p	p	p	FC-S	CE	G5	T3	S1	1.1	1
Wild turkey	Bird	y	y	y	y			G5		S?	4	3
Williamson's sapsucker	Bird	y		y	y			G5		S3	5.3	4
Wilson's warbler	Bird	y	y	y	y			G5		S?	1.2	5
Yellow warbler	Bird	y	y	y	y		SSC	G5	T3?	S2	1.1	3
Yellow-billed magpie	Bird			y				G5		S5	2	4
Yellow-breasted chat	Bird	y	y	y	y		SSC	G5		S3	1.1	5
Zone-tailed hawk	Bird		y		y			G4		NR	8	4
Arroyo chub	Fish	y	y	y	y	S	SSC	G2		S2	1.3	5
Mohave tui chub (only hybrid population on forest)	Fish				y	FE	CE	G4	T1	S1	1.3	1
Pacific lamprey	Fish		h/p	y				G5		S?	1.3	5
Partially-armored threespine stickleback	Fish	y	y	y	y	S		G5			1.3	5
Rainbow trout	Fish	y	y	y	y			G5		S5	1.3	3
Santa Ana speckled dace	Fish	y	y	y	y	S	SSC	G5	T1	S1	1.3	5
Santa Ana sucker	Fish	y	h	y	h/p	FT	SSC	G1		S1	1.3	5
Southern steelhead (southern ESU)	Fish	h	y		h	FE	SSC	G5		S2	1.3	5
Southern steelhead (south-central ESU)	Fish			y		FT	SSC	G5		S2	1.3	5
Tidewater goby	Fish			p		FE	SSC	G3		S2/3	1.3	1
Unarmored threespine Shay Creek stickleback	Fish				y	FE		G5	T1	S1	1.3	4
Unarmored threespine stickleback	Fish	y				FE	CE	G5	T1	S1	1.3	5
Andrew's marble butterfly	Invert				y			G3/4	T1	S1	5	4
August checkerspot butterfly	Invert				y			G5	T3/4	?	5	4
Bicolor rainbeetle	Invert				y			?		?	5.1	4

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
Bright blue copper butterfly	Invert			y				G5	T1/2	?	8	2
California diplectronan caddisfly	Invert	y			y			G1/3		S1/3	1.3	5
Clemence's silverspot butterfly	Invert			y				G1/2	T1/2	S?	3	4
Conservancy fairy shrimp	Invert					FE		G1		S1	15	4
Dammer's blue butterfly	Invert				y			G5	?	?	8	4
Arrastre Creek blue butterfly (near <i>dammersi</i> ssp.) (in Dammer's blue butterfly account)	Invert				y			G5	?	?	5	4
Baldwin Lake blue butterfly (near <i>dammersi</i> ssp.) (in Dammer's blue butterfly account)	Invert				y			G5	?	?	11	5
Desert monkey grasshopper	Invert				y			G1/2		S1/2	8	5
Dorhn's elegant eucnemid beetle	Invert	y			y			GH		SH	5.1	4
Doudoroff's elfin butterfly	Invert			y				G4	T1/2	?	4	4
Erlich's checkerspot butterfly	Invert				y			G5	T1	?	11	5
Greenest tiger beetle	Invert				p			G5	T1	S1	1.1	2
Harbison's dun skipper	Invert		y					G5	T1	S1	1	5
Hermes copper butterfly	Invert		y					G1/2		S1/2	3	5
Laguna Mountains skipper	Invert		y			FE		G5	T1	S1	13	5
Longhorn fairy shrimp	Invert			p		FE		G1		S1	15	1
Pratt's blue butterfly	Invert				y			G5	T1/2	?	3	4
Quino checkerspot butterfly	Invert	p	h/p		y	FE		G5	T1	S1	3	5
San Bernardino Mountains silk moth	Invert				y			G1/2		S1/2	8	4
San Diego fairy shrimp	Invert		p			FE		G1		S1	15	1
San Emigdio blue butterfly	Invert	p		y				G2/3		S2/3	8	4
San Gabriel Mountains elfin	Invert	y			y			G3/4	T1/2	S1/2	4	5
San Gabriel Mts. greenish blue	Invert	p						G5	T1	S1	13	2
Smith's blue butterfly	Invert			y		FE		G5	T1/2	S1/2	3.1	4
Thorne's hairstreak butterfly	Invert		p					G1		S1	9	2
Vernal blue butterfly	Invert				y			G2/3	T1	?	11	5

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
Vernal pool fairy shrimp	Invert		p	p		FT		G2/3		S2/3	15	4
American badger	Mammal	y	y	y	y		SSC	G5		S4	16	6
Black bear	Mammal	y		y	y			G5		S5	16	3
California chipmunk	Mammal				y			G4		S3/4	16	4
California leaf-nosed bat	Mammal		p		p	S	SSC	G4		S2/3	18	1
Coachella Valley round-tailed ground squirrel	Mammal				p	FC		G5	T1/2	S1/2	18	1
Fringed myotis	Mammal	y	y	y	y			G4/5		S4	5	4
Giant kangaroo rat	Mammal			p		FE	CE	G2		S2	17.2	2
Golden-mantled ground squirrel	Mammal				y			G5	T1	S1	5	4
Lodgepole chipmunk	Mammal	y			y			G5	T3?	S3?	5.3	4
Long-eared myotis	Mammal	y	y	y	y			G5		S4?	5	4
Long-legged myotis	Mammal	y	y	y	y			G5		S4?	5	4
Los Angeles pocket mouse	Mammal	p			p	S	SSC	G5	T1?	S1?	17.1	2
Mohave ground squirrel	Mammal	p			p		CT	G2?		S2?	18	2
Monterey dusky-footed woodrat	Mammal			y			SSC	G5	T3?	S3?	4	4
Mount Pinos lodgepole chipmunk	Mammal			y		S		G4	T1/3	S1/3	5.3	4
Mountain lion	Mammal	y	y	y	y			G5		S5	16	6
Mule deer	Mammal	y	y	y	y			G5		S5	16	3
Nelson's bighorn sheep	Mammal	y		y	y	S*		G4	T4	S3	16	5
Pallid bat	Mammal	y	y	y	y	S	SSC	G4	T4	S2/3	16.2	4
Peninsular bighorn sheep	Mammal				y	FE	CT	G4	T4	S1	8	5
Porcupine	Mammal	h/p			y			G5		S3/4	5	4
Ringtail	Mammal	y	y	y	y			G5		S3/4	1	3
San Bernardino dusky shrew	Mammal	y			y			G5	?	?	1.2	3
San Bernardino flying squirrel	Mammal				y	S	SSC	G5	T3?	S3?	5	5
San Bernardino kangaroo rat	Mammal	p			y	FE	SSC	G5	T1	S1	17.3	5
San Bernardino white-eared pocket mouse	Mammal	p			h/p	S	SSC	G1/2	TH	SH	5.1	4
San Diego black-tailed jackrabbit	Mammal	h/p	p		y		SSC	G5	T3	S3?	17.1	4

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
San Diego desert woodrat	Mammal	y	y	y	y		SSC	G5	T3?	S3?	8	4
San Diego pocket mouse	Mammal	y	y		y		SSC	G5	T3	S2/3	3	4
San Joaquin antelope squirrel	Mammal			p			CT	G2		S2	17.2	2
San Joaquin kit fox	Mammal			t		FE	CT	G4	T2/3	S2/3	17.2	2
Southern sea otter	Mammal			y		FT		G4	T2	S2	6	4
Spotted bat	Mammal	y	y	y	y		SSC	G4		S2/3	16.1	4
Stellar's sea lion	Mammal			y		FT		G3		S2	6	4
Stephens' kangaroo rat	Mammal		y		p	FE	CT	G2		S2	17.1	4
Tehachapi white-eared pocket mouse	Mammal	h/p		y		S	SSC	G1/2	T1/2	S1/2	8	4
Townsend's big-eared bat	Mammal	y	y	y	y	S	SSC	G4	T3/4	S2/3	16.2	5
Tule elk	Mammal			y				G5	T3	S?	15	4
Western mastiff bat	Mammal	y	y	y	y		SSC	G5		S3?	16.1	3
Western red bat	Mammal		y	y	p	S	SSC	G5		S?	1	4
Western small-footed myotis	Mammal	y	y	y	y			G5		S?	16.2	3
Western spotted skunk	Mammal	y	y	y	y			G5			16	4
Wild burro	Mammal				y						8	4
Wild horse	Mammal			y							2	4
Wild pig	Mammal	p		y	y			G5		S?	16	3
Yuma myotis	Mammal	y	y	y	y			G5		S4?	16.2	3
Belding's orange-throated whiptail	Reptile		y		y		SSC	G5	T2	S2	3.1	5
Black-tailed brush lizard	Reptile		p					G5		S3	8	2
Blunt-nosed leopard lizard	Reptile			p		FE	CE	G1		S1	17.2	4
California legless lizard	Reptile	y	y	y	y	S	SSC	G3/4	T2/4Q	S2/3	16	4
Coast horned lizard	Reptile	y		y		S	SSC	G4	T3/4	S3/4	3	3
Coast mountain kingsnake	Reptile	y		y				G4/5			5	3
Coast patch-nosed snake	Reptile	y	y	y	y		SSC	G5	G3	S2/3	3	3
Coastal rosy boa	Reptile	y	y		y	S		G4/5		S3/4	3	4
Coronado skink	Reptile		y		y		SSC	G5	T2/3Q	S1/2	16	3

Table 369. Animal Species Evaluated for Viability Concerns (Species of Concern)

Common Name	Taxon	ANF	CNF	LPNF	SBNF	Fed Status	CA Status	Global rank	Subspecies rank	State rank	Hab Grp	FS Threat Cat
Desert tortoise	Reptile	p			p	FT	CT	G4		S2	18	4
Mountain garter snake	Reptile				y			G5			5	5
Red diamond rattlesnake	Reptile		y		y		SSC	G4		S3	3	3
San Bernardino mountain kingsnake	Reptile	y			y	S	SSC	G4/5	T2/3	S2?	5	3
San Bernardino ringneck snake	Reptile	y	p		y	S		G5	T2/3	S2?	16	3
San Diego horned lizard	Reptile	y	y	y	y	S	SSC	G4		S3/4	16	3
San Diego mountain kingsnake	Reptile		y			S	SSC	G4/5	T1/2	S1/2	5	3
San Diego ringneck snake	Reptile		y		y	S		G5	T2/3	S2?	16	3
South coast red-sided garter snake	Reptile		p	p	p			G5	T1/2	S1/2	1.1	2
Southern Pacific pond turtle	Reptile	y	y	y	y	S	SSC	G3/4	T2/3Q	S2	1.1	5
Southern rubber boa	Reptile				y	S	CT	G5	T2/3	S2/3	5.1	5
Southern sagebrush lizard	Reptile	y	y	y	y			G5			5	4
Two-striped garter snake	Reptile	y	y	y	y	S	SSC	G2/3		S2	1.3	3
Western sagebrush lizard	Reptile			y				G5			4	4

Total 196

S*—Only the San Gabriel population of Nelson’s bighorn sheep is considered Sensitive

Information Acquisition for Analysis

In November 2001, a contractor was hired to develop descriptive habitat and species accounts from available scientific literature, starting with the information contained in the SCMFA (Stephenson and Calcarone 1999). Additional information came from readily-available published sources on vegetation types and species' biology and ecology. Information on federally-listed species was also obtained from the descriptive material compiled in the programmatic consultation for the four southern California national forests' existing forest plans (USDA Forest Service 2000a). Species experts were contacted informally to provide literature sources or offer expert opinions in completion of some information items.

Habitat accounts were written for alpine and subalpine habitats; chaparral; coastal sage scrub; desert montane; desert scrub; gabbro outcrops; lakes and reservoirs; limestone and carbonate outcrops; lower montane forest; montane conifer forest; montane meadows; Monterey coastal habitats; oak woodland, savanna, and grassland; pebble plains; riparian habitats; serpentine outcrops; and vernal pool habitats. The contents included a description, distribution, abundance, ecological processes, factors influencing ecological processes, and management considerations for each habitat. Accounts were written for 196 animal species or subspecies (30 invertebrates, 12 fish, 14 amphibians, 23 reptiles, 71 birds, and 46 mammals) and 286 plant species or subspecific taxa. Contents of each species account included, as appropriate, the federal or state status; distribution and known occurrences; systematics; habitat requirements; reproduction; dispersal; migration; diet and foraging; territoriality and home range; predator-prey relationships; inter- and intra-specific interactions; population status and trends; and conservation considerations. The intent was not to create a complete treatise on the natural history of each species, but to summarize the basic information most useful for conducting analysis of the effects of Forest Service land management plan decisions on habitats and species of concern.

To figure out how best to meet the viability requirements in the Forest Service planning regulations, the agency held a workshop in April 2002 that brought national Forest Service experts on species viability assessment to southern California to confer with local national forest biologists and botanists. This workshop ratified the two-tiered approach to viability evaluation described above in this document. The coarse filter/fine filter approach was based, in part, on the Tongass National Forest Population Viability Assessment for Land Management Planning, the Columbia River Basin Assessment, the Committee of Scientists report (Committee of Scientists 1999), the USDA Forest Service Region 1/Region 4 Terrestrial Protocols, and the USDA Forest Service Region 9 Minnesota and Wisconsin Viability Analysis process. Because of the large number of species with potential viability concerns in the southern California planning area, workshop participants recognized that a very detailed analysis of each and every species by individual species experts would not be possible given existing time and budgetary constraints. A process for soliciting voluntary expert assistance and input was suggested, as described below.

Two forest plan revision team biologists conducted the initial internal review of the accounts for consistency and format. The draft accounts were then placed on a website, and members of the scientific community and Forest Service specialists were invited by mail and e-mail to review and update the information in these draft reports during the summer of 2002. Over 400 persons were individually invited to participate, and they were encouraged to spread the word to other species experts who may have been missed by the initial mailings. We particularly sought their knowledge of species locations, habitat requirements, population trends, and threats to species persistence, especially on National Forest System lands in southern California. We asked for management action suggestions to help conserve species in the planning area. Fifty-one individuals reviewed and provided comments on 100 of the 501 documents via the website (a disappointing outcome). During this time, expert opinion was also provided to Forest Service biologists and botanists informally through individual contact with experts at universities, California Department of Fish and Game, and private organizations.

The contractor revised the accounts based on input from the online reviews and individual contacts, and completed reports were submitted late in 2002.

The completed species reports were then reviewed by a set of botanists and biologists from each of the four southern California national forests, the Pacific Southwest Research Station, and the forest plan revision office. These personnel included Steve Anderson, Jan Beyers, Linh Davis, Scott Eliason, Mike Foster, Debby Hyde-Sato, Deveree Kopp, Steve Loe, Lisa Mizuno, Mary Thomas, Donna Toth, Leslie Welch, and Richard Wales. Additional information on many species was obtained from Forest Service office files, particularly site-specific occurrence data on plants. This information was not made available to the contractor initially due to personnel time constraints. Further personal contacts were made with different agencies and scientists to obtain any recent reports, voucher specimens, or updates to species occurrences. Information from various websites and online databases was added as available. The revised species accounts and habitat accounts were the basis for subsequent analysis.

Due to their length, the species accounts in their entirety are not included in the FEIS, but rather are part of the Planning Record. The accounts for all 482 species of concern are found on the Forest Plan Revision website (www.fs.fed.us/r5/scfpr/read/) and on the CD version of the final forest plan revision documents.

Identification of Species Potentially at Risk from Forest Service Activities and Plan Decisions

It was recognized that not all species of potential conservation concern were actually at risk of population decline from Forest Service-authorized activities. Many species are naturally rare, and others have suffered decreased population sizes or distributional range because of activities occurring primarily on private land. The 482 species of potential conservation concern were evaluated by one or more of the biologists or botanists (as listed above) to determine vulnerability of the species to Forest Service-authorized activities, as affected by the decisions to be made in the revised forest plans (desired conditions/objectives, land use zones, suitable uses, standards, congressional action recommendations, and monitoring), using the information in the species accounts. Other Forest Service biologists and botanists were consulted when appropriate. The six alternatives to be analyzed in the Draft Environmental Impact Statement (DEIS) and the modified (selected) alternative added in the Final Environmental Impact Statement (FEIS) were considered as part this evaluation. The alternatives differ primarily in their strategic program emphases and distribution of land use zones (see Chapter 2 of this FEIS for description).

The biologists and botanists considered the known and suspected distribution of each species; the likely condition of each species' habitat under the forest plan alternatives; the sensitivity of each species to activities likely to occur under implementation of the revised forest plans; and the likely effectiveness of protective measures that would be in place under the revised forest plans, including forest plan standards and other Plan direction. This evaluation assumed that standards would be consistently applied, land use zones would be managed as designed, and that species were distributed as described in the species accounts. Only potential effects to species that would occur on National Forest System lands (the "plan area") or as a result of off-site impacts of activities on National Forest System lands were considered when assessing vulnerability.

Based upon the evaluation described above, species of potential conservation concern were assigned one of the following "threat" categories:

- Not found in the plan area.
- Potential habitat only in the plan area; no records of species occurrence.
- Common or widespread in plan area with no substantial threats to persistence or distribution from Forest Service activities.

- Uncommon, narrow endemic, disjunct, or peripheral in the plan area with no substantial threats to persistence or distribution from Forest Service activities.
- Uncommon, narrow endemic, disjunct, or peripheral in the plan area with substantial threats to persistence or distribution from Forest Service activities.
- Common or widespread in plan area with substantial threats to persistence or distribution from Forest Service activities.

An explanation of the evaluation of threats was added to each species account, along with the threat category. “Substantial” threats were considered to be those with high likelihood to occur and high likelihood of having detrimental effects on a species’ habitat quality or quantity or population size. The following definitions were used during the threat evaluation:

(1) **Endemic species:** Species whose entire distribution is restricted to a single planning area.

All else being equal, a species with small populations that is both endemic to a planning area and specific to one or only a few habitats faces the greatest risks from human activities; however, not all such species are subject to substantial threats. Some species occupy specific sites (e.g., cave, cliff, bog) that may not be affected by any management alternative in the forest planning process, requiring only that site-specific management projects avoid or otherwise mitigate effects of activities in these areas.

(2) **Disjunct species:** Species whose natural distribution has resulted in one or more populations in the planning area that are either isolated from each other and/or from other populations outside the planning area.

If the species as a whole remains well distributed, and its populations generally are not declining or threatened, then the species is not considered to be subject to “substantial threats.” If, on the other hand, the species is known to be declining in a significant portion of its range due at least in part to actions within Forest Service control, then the species requires further analysis. Regardless of whether disjunct populations are subjected to substantial threats, they are likely to have diverged genetically or morphologically from less isolated populations.

(3) **Peripheral species:** Species that only partially occur within the planning area.

Peripheral populations of a species were considered important for conservation attention in two sets of circumstances. First, if the population in question occurs at the northern end of the limits of the species’ distribution, it potentially could become a central or core population in the future under various global climate change scenarios. Second, if the peripheral populations belong to a species that has already suffered declines and habitat losses in major portions of its range, these peripheral populations may represent the only conservation opportunities in the future. Any threats to these populations from Forest Service activities could be substantial and important to the species as a whole.

(4) **Uncommon species:** Species that are inherently rare and not naturally well-distributed across the planning area.

Some species may be intrinsically rare due to habitat specificity. Again, whether such species are vulnerable to substantial threats depends upon the habitat they occupy and resources they require. In most cases, their habitat needs can be addressed at the project level. It may be prudent to maintain these species on at-risk lists so that managers are reminded of the specific habitat needs and appropriate conservation measures when planning future actions.

(5) **Common or widespread species:** Species well known and often encountered in databases or reports or known or suspected to occur throughout all or most of the four southern California national forests.

This assessment of risk to species is recognized as an inherently subjective process based upon professional opinion. Of the 482 species identified as being of potential conservation concern, 149 species

were determined to be subject to substantial threats from Forest Service activities; that is, they were classified in threat categories 5 or 6. The numbers of plant and animal species that were placed in each of the six threat categories are summarized in tables 113 and 114 below.

Table 113. Number of Animal Species of Concern in Each Threat Category

Federal or State Status	Number of Animal Species	Threat Category					
		1	2	3	4	5	6
Endangered	*25	4	3	0	7	10	1
Threatened	11	0	1	0	4	6	0
Proposed	0	0	0	0	0	0	0
Candidate	**2	2	0	0	0	0	0
Sensitive	34	2	4	6	13	8	1
State	35	1	4	8	12	9	1
Other	89	0	7	19	43	19	1
Total	196	9	19	33	79	52	4

* California tiger salamander, Mohave tui chub and San Diego fairy shrimp are not present on the national forests.

* * Coachella Valley ground squirrel is not present on the national forests. Western yellow-billed cuckoo is included within Candidate status.

Threat Categories:	
1)	Not found in the plan area.
2)	Potential habitat only in the plan area; no records of species occurrence.
3)	Common or widespread in plan area with no substantial threats to persistence or distribution from Forest Service activities.
4)	Uncommon, narrow endemic, disjunct, or peripheral in the plan area with no substantial threats to persistence or distribution from Forest Service activities.
5)	Uncommon, narrow endemic, disjunct, or peripheral in the plan area with substantial threats to persistence or distribution from Forest Service activities.
6)	Common or widespread in plan area with substantial threats to persistence or distribution from Forest Service.

Table 114. Number of Plant Species of Concern in Each Threat Category

Federal Status	Number of Plant Species	Threat Category					
		1	2	3	4	5	6
Endangered	18	1	6	0	0	11	0
Threatened	10	0	1	0	3	6	0
Candidate	2	1	0	0	0	1	0
Sensitive	136	3	9	4	67	53	0
Watch List	67	0	16	3	32	16	0
Other	53	6	5	10	26	6	0
Total	286	11	37	17	128	93	0

The 149 species that fell into threat categories 5 or 6 were, by definition, considered to be potentially at risk from Forest Service activities under one or more of the proposed forest plan alternatives. Thus, these were the species for which individual viability assessment needed to be conducted. These species, considered hereafter to be “species-at-risk,” are listed in tables 367 and 370 below.

Table 367. Plant Species-At-Risk

See Table 467, Key to Codes Frequently Used in Biodiversity Tables

Table 367. Plant Species-At-Risk							
Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	Hab Grp	Threats
<i>Acanthomintha ilicifolia</i>	C/SD	FT/CE	1B	2-3-2	G1	9	Dispersed recreation, unauthorized grazing, invasive species, WUI defense zones
<i>Acanthoscyphus parishii</i> var. <i>abramsii</i>	L/SLP	S	1B	2-2-3	G4?T2	3.2	Incomplete knowledge, small population size, vegetation management
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	S/SB	FE	1B	3-3-3	G4?T1	10	Access, mining, recreation
<i>Allium hickmanii</i>	L/NSL	W	1B	2-3-2	G2	19	Incomplete knowledge, grazing
<i>Allium munzii</i>	C/SA	FE/CT	1B	3-3-3	G1	9	Recreation, invasive species
<i>Androsace elongata</i> ssp. <i>acuta</i>	C,S,L/SD, SJ, SB, SLP	W	4	1-2-2	G?T3?	16	Grazing, vegetation management
<i>Arabis dispar</i>	S/SB	W	2	2-1-1	G3	8	Access, recreation, vegetation management
<i>Arabis johnstonii</i>	S/SJ	S	1B	3-2-3	G2	3.2	Grazing
<i>Arabis parishii</i>	S/SB	S	1B	2-2-3	G2	11	Access, recreation, mining, WUI defense zones
<i>Arctostaphylos cruzensis</i>	L/NSL	S	1B	2-2-3	G2	6	Small population size, vegetation management
<i>Arenaria lanuginosa</i> ssp. <i>saxosa</i>	S/SB	-	2	3-1-1	G5T5	7	Recreation, altered hydrology
<i>Arenaria macradena</i> var. <i>kuschei</i>	A/SA	S	1B	3- 3-3	G5?T2 ?	3.2	Road maintenance, unauthorized OHV use, fuelbreak maintenance, recreation trampling
<i>Arenaria ursina</i>	S/SB	FT	1B	2-2-3	G2	11	Access, recreation, mining, WUI defense zones
<i>Astragalus albens</i>	S/SB	FE	1B	3-3-3	G1	10	Access, recreation, mining

Table 367. Plant Species-At-Risk

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	Hab Grp	Threats
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	S/SB	S	1B	2-2-3	G5T1	8	Access, recreation, mining
<i>Astragalus oocarpus</i>	C/SD	S	1B	3-2-3	G2	3.2	Small population size, access
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	C,pS/SD,SJ	S	1B	3-3-3	G?T1	3	Small population size, recreation
<i>Berberis nevinii</i>	C/SD,pSA,pS,A/SB,SG	FE/CE	1B	3-3-3	G2	3	Incomplete knowledge, small population size, recreation, vegetation management
<i>Botrychium crenulatum</i>	S,pA/SB	S	2	2-2-1	G3	13.1	Altered hydrology, recreation
<i>Calochortus clavatus</i> var. <i>gracilis</i>	A/SG	-	1B	3-2-3	G4T1	3.2	WUI fuel treatments, incomplete knowledge
<i>Calochortus dunnii</i>	C/SD	S/CR	1B	2-2-3	G2	9	Recreation
<i>Calochortus obispoensis</i>	L/SLP,NSL	S	1B	2-2-3	G2	12	Recreation, vegetation management
<i>Calochortus palmeri</i> var. <i>munzii</i>	S/SJ	S	1B	3-2-3	G2T1	13	Access, recreation, collection
<i>Calochortus palmeri</i> var. <i>palmeri</i>	S,A,L/SJ,SB,SG,CAS,SLP	S	1B	2-2-3	G2T2	13	Access, recreation, collection
<i>Calochortus simulans</i>	L/SLP,SSL	W	1B	2-1-3	G3	16	Grazing, recreation, roads and OHV trail nearby
<i>Camissonia hardhamiae</i>	L/SLP,SSL	W	1B	3-2-3	G1Q	3	Small population size, incomplete knowledge, recreation, grazing
<i>Canbya candida</i>	pS,A/SB	S	4	1-2-3	G3	8	Small population size, limited knowledge, recreation
<i>Carex obispoensis</i>	L/SLP,NSL	S	1B	2-2-3	G2	16	Special uses, recreation
<i>Castilleja cinerea</i>	S/SB	FT	1B	2-2-3	G2	11	Access, recreation, mining, WUI defense zones
<i>Castilleja gleasonii</i>	A/SG	S/CR	1B	3-2-3	G2Q	5	Recreation, motorized vehicle use
<i>Castilleja lasiorhyncha</i>	pC,S/SB	S	1B	2-2-3	G2	13	Access, recreation, altered hydrology

Table 367. Plant Species-At-Risk

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	Hab Grp	Threats
<i>Castilleja plagiotoma</i>	S,A,pL/SA,SB	W	4	1-1-3	G3	11	Access, recreation, vegetation management
<i>Caulanthus amplexicaulis</i> var. <i>barbarae</i>	L/SLP	S	1B	3-1-3	G3?T1	12	Small population size, access, mining
<i>Caulanthus lemmonii</i>	L/SLP,SSL,NSL	W	1B	2-2-3	G4T2	16	Incomplete knowledge, recreation, grazing
<i>Chlorogalum purpureum</i> var. <i>reductum</i>	L/SSL	FT/CR	1B	3-3-3	G1T1	12	Access, recreation
<i>Chorizanthe blakleyi</i>	L/SLP	S	1B	2-1-3	G3	3.2	Small population size, access
<i>Clarkia jolonensis</i>	L/NSL	W	1B	3-2-3	G2	3	Incomplete knowledge, grazing
<i>Claytonia lanceolata</i> var. <i>peirsonii</i>	S,A/SG	S	1B	3-3-3	G5T1Q	7	Access, recreation, grazing, mining
<i>Cupressus stephensonii</i>	C/SD	S	1B	3-3-3	G1	3.2	small population size, too frequent fire
<i>Delphinium hesperium</i> ssp. <i>cuyamaceae</i>	C, S/SD, SJ	S/CR	1B	2- 2- 3	G4T2	13	Habitat degradation from fuel treatments, dispersed recreation
<i>Delphinium hutchinsoniae</i>	L/NSL	S	1B	3-2-3	G2	6	Small population size, recreation
<i>Dieteria asteroides</i> var. <i>lagunensis</i>	C,pS/SD	S/CR	2	3-3-1	G5T2T 3	13	Recreation, grazing, timber management, WUI fuel treatments
<i>Dieteria canescens</i> var. <i>zieglerei</i>	S/SJ	S	1B	3-2-3	G5T1	5	Small population size, access, recreation
<i>Dodecahema leptoceras</i>	C,S/SD,SJ,SB,SG	FE/CE	1B	3-3-3	G1	17.3	Unauthorized shooting, dispersed recreation
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	S/SB	S	1B	2-2-3	G3T2	8	Access, recreation, mining
<i>Dudleya densiflora</i>	A/SG	S	1B	3-3-3	G1	1.1	Small population size, access
<i>Erigeron parishii</i>	S/SA, SB	FT	1B	2-3-3	G2	10	Mining
<i>Eriogonum evanidum</i>	pC,S/SD,SJ,SB	W	1B	3-2-2	G3	8	Dispersed recreation, mining, incomplete knowledge
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	S/SB	FT	1B	2-2-3	G4T2	11	Access, recreation, mining

Table 367. Plant Species-At-Risk

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	Hab Grp	Threats
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	S/SB	FE	1B	3-3-3	G5T1	10	Access, mining
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	S/SJ	S	1B	3-1-3	G5T1	5	Small population size, recreation
<i>Galium californicum</i> ssp. <i>primum</i>	S/SJ	S	1B	3-2-3	G5T1	5	Access, recreation, vegetation management
<i>Galium grande</i>	A/SG	S	1B	3-1-3	G1	4	Road and trail use and maintenance, WUI fuel treatments
<i>Gentiana fremontii</i>	S/SB	-	2	3-1-1	G4	7	Recreation, vegetation management
<i>Horkelia yadonii</i>	L/SLP,NSL	-	4	1-2-3	G3	13	Dispersed recreation
<i>Ivesia argyrocoma</i>	S/SB	S	1B	2-2-2	G2	11	Access, recreation, mining, WUI fuel treatments
<i>Juncus duranii</i>	S/SJ,SB,SG	W	4	1-1-3	G3	13.1	Altered hydrology, recreation, access, grazing
<i>Lepechinia fragrans</i>	pS,A/SG/SLP	W	4	1-2-3	G3	3.2	WUI fuel treatments, type conversion, road and trail use and maintenance
<i>Leptosiphon floribundus</i> ssp. <i>hallii</i>	S/SJ	S	1B	3-1-3	G4T1	8	Access, recreation
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	C,S,A,L/SD,SA,SJ,SB,SG, CAS,SLP	W	4	1-2-3	G4T3	1	Recreation, grazing
<i>Limnanthes gracilis</i> ssp. <i>parishii</i>	C/SD,SJ	S/CE	1B	2-2-3	G3T2	13.1 and 15	Recreation, grazing
<i>Linanthus concinnus</i>	pS,A/SB	S	1B	3-2-3	G2	5	Access, recreation
<i>Linanthus killipii</i>	S/SB	S	1B	2-2-3	G2	11	Access, recreation, mining
<i>Lupinus ludovicianus</i>	L/SSL	S	1B	3-2-3	G2	19	Incomplete knowledge, small population size, vegetation management
<i>Malacothamnus palmeri</i> var. <i>lucianus</i>	L/NSL	S	1B	3-2-3	G4T1Q	3.2	Small population size, access, vegetation management

Table 367. Plant Species-At-Risk

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	Hab Grp	Threats
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	S,pA/SJ,SB	S	2	3-3-1	G?T4	13.1	Recreation
<i>Marina orcutti</i> var. <i>orcuttii</i>	S/SJ	S	1B	3-1-2	G?T1T 2	8	Recreation, access, small population size, limited knowledge
<i>Matelea parvifolia</i>	S/SJ,pSB	-	2	3-1-1	G5?	18	Access, recreation
<i>Mimulus exiguus</i>	S/SB	S	1B	2-2-2	G2	13	Access, recreation, altered hydrology
<i>Mimulus purpureus</i>	S/SB	S	1B	2-2-2	G2	11	Access, recreation, vegetation management
<i>Packera bernardina</i>	S/SB	S	1B	2-2-3	-	13.2	Access, recreation, mining
<i>Packera ganderi</i>	C/SD	S/CR	1B	3-2-3	-	9	Recreation
<i>Parnassia cirrata</i> var. <i>cirrata</i>	S/SB,SG	-	1B	2-1-3	G2	5	Recreation
<i>Penstemon californicus</i>	pC,S/SJ	S	1B	3-2-2	G3?	8	Access, recreation, vegetation management
<i>Pentachaeta exilis</i> ssp. <i>aeolica</i>	L/SB,NSL	S	1B	3-2-3	G5T1	2	Incomplete knowledge, small population size, access
<i>Phacelia exilis</i>	S/SB	W	4	1-1-3	G3Q	5	Access, recreation, grazing, vegetation management
<i>Phacelia mohavensis</i>	S/SB,SG	W	4	1-1-3	G3Q	8	Access, recreation, altered hydrology
<i>Phlox dolichantha</i>	S/SB	S	1B	2-2-3	G2	5	Access, recreation, WUI defense zones
<i>Physaria kingii</i> ssp. <i>bernardina</i>	S/SB	FE	1B	3-3-3	G5T1	10	Recreation, mining, WUI defense zone maintenance and dispersed use of zone
<i>Piperia leptopetala</i>	pA,C,pL,S/pCAS,pNSL,SB,SD	W	4	1-1-3	G3	5	Vegetation management
<i>Poa atropurpurea</i>	C,S/SD,SB	FE	1B	2-2-3	G2	13.1	Altered hydrology, recreation
<i>Podistera nevadensis</i>	S/SB	W	4	1-1-3	G3	7	Limited knowledge, small population size, recreation, fuel treatments

Table 367. Plant Species-At-Risk

Scientific Name	Forest Distribution/ Mountain Range(s)	Status	CNPS LIST	R-E-D	G	Hab Grp	Threats
<i>Pyrocoma uniflora</i> var. <i>gossypina</i>	S/SB	S	1B	2-2-3	G5T2	13.2	Access, recreation, mining
<i>Sanicula maritima</i>	L/SSL,NSL	S/CR	1B	3-2-2	G2	12	Small population size, recreation
<i>Sedum niveum</i>	S/SJ,SB	S	4	1-2-2	G3	5	Access, recreation, vegetation management
<i>Sibaropsis hammittii</i>	C/SA	S	1B	3-2-3	G2	9	Recreation, grazing
<i>Sidalcea hickmanii</i> ssp. <i>hickmanii</i>	L/NSL	S	1B	2-1-3	G3T2	3.2	Small population size, access, vegetation management
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	S,pA,L/SB,SLP,SSL	FC/S/C R	1B	3-2-3	G3T1	3.2	Small population size, access, vegetation management
<i>Sidalcea pedata</i>	S/SB	FE/CE	1B	3-3-3	G1	13.1	Altered hydrology, recreation
<i>Sidotheca emarginata</i>	S/SJ	S	1B	2-1-3	G2	3.2	Grazing
<i>Taraxacum californicum</i>	S/SB	FE	1B	3-2-3	G2	13.1	Altered hydrology, recreation
<i>Thelypodium stenopetalum</i>	S/SB	FE/CE	1B	3-3-3	G1	13	Altered hydrology, recreation
<i>Thermopsis macrophylla</i>	L/SB	S/CR	1B	3-1-3	G1	3.2	Small population size, access, vegetation management

FC= Federal Candidate

Table 370. Animal Species-At-Risk

See Table 467, Key to Codes Frequently Used in Biodiversity Tables

Species	Forest Distribution	Taxon	Fed Status	Heritage Rank	Habitat Group	Threats	Threat Category
Arroyo toad	A, C, L, S	Amphib	FE	G2/3 S2/3	1.3	Diversion or groundwater extraction, recreational collecting and damage to eggs, roads, crossings, campgrounds, nonnative plants, unauthorized OHV, grazing, suction dredging, prospecting	6
California red-legged frog	A, L	Amphib	FT	G4 T2/3 S2/3	1.3	Grazing, water diversion/extraction, campgrounds and roads, waterplay, disease spread from surveys	5
Coast range newt	A, C, L, Ps	Amphib		T5 T? S3	1.3	Groundwater extraction, water diversion or pollution, recreation and roads in riparian areas, water release	5
Mountain yellow-legged frog	A, S	Amphib	FE	G2/3 S3	1.3	Recreation use in streams, waterplay, roads and trails, water diversion or extraction, recreation facilities, small scale mining and prospecting	5
Western spadefoot	pA, C, L, S	Amphib		G3 S3?	17	Roads, lack of connectivity to valley open space, hydrologic changes	5
American dipper	A, pC, L, S	Bird		G5 S5	1.2	High levels of summer recreation use on major rivers	5
Bald eagle	S	Bird	FT	G4 S2	14	Recreational use, OHV use, wildfire	5
Black swift	A, pC, pL, S	Bird		G4 S2	1	Waterfall related recreation	5
California condor	A, L, S	Bird	FE	G1 S1	16.1	Communication and utility facilities, harassment at cliffs, lead, shooting	5
California spotted owl	A, C, L, S	Bird	S	G3 T3 S3	4	Wildfire, fuels treatment, ski area expansion	6
Calliope hummingbird	A, pC, L, S	Bird		G5 S4	13	Recreation and other meadow disturbance	5
Coastal California gnatcatcher	C, pL, pS	Bird	FT	G3 S2	3.1	Fire suppression, habitat fragmentation, grazing	5
Common yellowthroat	A, C, L, S	Bird		G5 S3	1.1	Dewatering, recreation use, grazing	5
Flammulated owl	A, C, L, S	Bird		G4 S?	5.1	Lack of natural fire return intervals in conifer stands	5
Golden eagle	A, C, L, S	Bird		G5 S3	16.1	Development of valleys, human use of cliffs for climbing, shooting, lead	5

Species	Forest Distribution	Taxon	Fed Status	Heritage Rank	Habitat Group	Threats	Threat Category
Least Bell's vireo	pA, C, L, S	Bird	FE	G5 T2/3 S2	1.1	Grazing, special uses, recreation	5
Lincoln's sparrow	A, L, S	Bird		G5 S?	13	Wet meadow activities	5
Long-eared owl	A, C, L, S	Bird		G5 S3	2	Riparian and oak woodland degradation from activities and recreation use.	5
MacGillivray's warbler	A, C, pL, S	Bird		G5 S?	13.1	Wet meadow and riparian area activities	5
Prairie falcon	A, C, L, S	Bird		G5 S3	16.1	Cliff climbing recreation	5
Purple martin	A, C, L, S	Bird		G5 S3	4	Loss of bigcone Douglas-fir to wildfire, loss of large snags to fuelwood harvest and fuels management	5
Southwestern willow flycatcher	A, C, L, S	Bird	FE	G5 T1/2 S1	1.1	Intensive recreation use, wildfire, grazing, special uses, OHVs, roads, water diversion	5
Swainson's thrush	A, C, L, S	Bird		G5 S4	1.1	Intensive recreation use, wildfire, grazing, OHVs, roads, water diversion	5
Turkey vulture	A, C, L, S	Bird		G5 S5	16	Harassment at nesting locations climbing on cliffs, shooting, lead	5
Western snowy plover	pL	Bird	FT	G4 T3 S2	6	Dispersed recreation	5
Wilson's warbler	A, C, L, S	Bird		G5 S?	1.2	Intensive recreation use, wildfire, grazing, OHVs, roads, water diversion.	5
Yellow-breasted chat	A, C, L, S	Bird		G5 S3	1.1	Dewatering, recreation use, grazing	5
Arroyo chub	A, C, L, S	Fish	S	SG2 S2	1.3	Activities in or adjacent to streams, especially roads, SUP water uses (diversions, extraction), recreation facilities	5
Pacific lamprey	pC, L	Fish		G5 S?	1.3	Activities in or adjacent to streams, especially roads, SUP water uses (diversions, extraction)	5
Partially-armored three-spine stickleback	A, C, L, S	Fish	S	G5	1.3	Activities in or adjacent to streams, especially roads, SUP water uses (diversions, extraction)	5
Santa Ana speckled dace	A, C, L, S	Fish	S	G5 T1 S1	1.3	Activities in or adjacent to streams, especially roads, SUP water uses (diversions, extraction)	5
Santa Ana sucker	A, pC, L, pS	Fish	FT	G1 S1	1.3	Activities in or adjacent to streams, especially roads, SUP water uses (diversions, extraction), recreation facilities	5

Species	Forest Distribution	Taxon	Fed Status	Heritage Rank	Habitat Group	Threats	Threat Category
Southern steelhead (southern ESU)	C	Fish	FE	G5 S2	1.3	Water use SUPs, diversions & FERC projects, roads/trails within 1/4 mi of streams, road stream crossings, recreation in riparian areas, fuel treatments, amount of OHV and dispersed and developed recreation within riparian area, grazing	5
Southern steelhead (south-central ESU)	L	Fish	FT	G5 S2	1.3	Water use SUPs, diversions & FERC projects, roads/trails within 1/4 mi of streams, road stream crossings, recreation in riparian areas, fuel treatments, amount of OHV and dispersed and developed recreation within riparian area, grazing	5
Unarmored three-spine stickleback	A, S	Fish	FE	G5 T1 S1	1.3	Low population	5
California diplectronan caddisfly	A, S	Invert		?	1.3	Water play activities	5
Baldwin Lake blue butterfly (near <i>dammersi</i> ssp.)	S	Invert		G5 T? S?	11	General threats to pebble plains (illegal OHV, recreation)	5
Desert monkey grasshopper	S	Invert		G1/3 S1/2	8	Too-frequent fire due to cheatgrass invasion; unauthorized off-road vehicle activity	5
Erlich's checkerspot butterfly	S	Invert		G5	11	Recreation activity in pebble plains	5
Harbison's dun skipper	C	Invert		G5 T1 S1	1	Water withdrawal at low elevation springs and seeps, grazing (could affect larval host plant)	5
Hermes copper butterfly	C	Invert		G1/2 S1/2	3	Prescribed fire or fuel reduction projects in habitat (affecting host plant, <i>Rhamnus crocea</i>)	5
Laguna Mountains skipper	C	Invert	FE	G5 T1 S1	13	Grazing, recreation activity	5
Quino checkerspot butterfly	C, S	Invert	FE	G5 T1 S1	3	Ground disturbance that increases nonnative grass at expense of larval food plants	5
San Gabriel Mountains elfin	S	Invert		G1/2 S1/2	4	Main threat appears to be from butterfly collectors	5
Vernal blue butterfly	S	Invert		G5 T? S?	11	Plant collection; unauthorized insect collection; unauthorized OHV activity; unauthorized grazing	5

Species	Forest Distribution	Taxon	Fed Status	Heritage Rank	Habitat Group	Threats	Threat Category
American badger	Pa, C, L, S	Mammal		G5 S4	16	Habitat fragmentation, lack of connectivity	6
Mountain lion	A, C, L, S	Mammal		G5 S5	16	Habitat fragmentation, road density, low prey density (mule deer and bighorn sheep)	6
Nelson's bighorn sheep	A, L, S	Mammal	S	G4 T4 S3	16	Dispersed recreation, low population, vegetation management (lack of fire in chaparral)	5
Peninsular bighorn sheep	S	Mammal	FE	G4 T4 S1	8	Grazing, recreation use, lack of fire in chaparral/scrub	5
San Bernardino flying squirrel	S	Mammal	S	G5 T3? S3?	5	Fuels treatment	5
San Bernardino kangaroo rat	S	Mammal	FE	G5 T1 S1	17.3	Ability to enforce SUP requirements, new roads, flood control facilities	5
Townsend's big-eared bat	A, C, L, S	Mammal	S	G4 T3/4 S2/3	16.2	Activities, including dispersed recreation, around known mines or caves, cliffs, buildings	5
Belding's orange-throated whiptail	C, S	Reptile		G5 T2 S2	3.1	Fuels management in coastal sage scrub and conversion to annual grassland from fire	5
Mountain garter snake	S	Reptile		G5	5	Dewatering, human disturbance in meadows	5
Southern Pacific pond turtle	A, C, L, S	Reptile	S	G3/4 T2/3Q S2	1.1	Diversion or groundwater extraction, recreational collecting	5
Southern rubber boa	S	Reptile	S	G5 T2/3 S2/3	5.1	Fuels management and other ground disturbance, development, roads, motorized trails	5

Assessment of Species Viability under Forest Plan Alternatives

The 149 species-at-risk each received an assessment of potential future viability under the proposed forest plan alternatives; this evaluation is included within each species account. Assessments were conducted by Forest Service biologists and botanists with expertise in the general taxonomic category, aided by other forest or district biologists and botanists more familiar with the individual species when necessary. Species experts were consulted individually by the botanists and biologists when more information was needed. As with the threat category evaluations, assessment of future species viability was an inherently subjective process based on professional judgment, using scientific information readily available at the time (summarized in the species account). Individual species viability assessments were predicated on the following assumptions:

- Specific locations of concentrated dispersed recreation, new motorized trails, vegetation and fuels treatment areas, and other new projects at the site or watershed level were unknown. To the extent that management strategies, land use zones, and design criteria (standards) provided spatial specificity, this information was considered.
- All design criteria (including forest plan standards) and land use zone restrictions on suitable uses would be implemented as specified.
- Closure of unneeded roads and trails or addition of new roads and trails to the system would occur gradually, through the normal national forest program of work.
- Full funding would be available to implement vegetation treatments and recreation impact monitoring and mitigation over the planning period.
- Recreation impact control measures, vegetation treatments, and design criteria would be effective in achieving goals – for example, maintaining, improving, or moving towards vegetation condition class and species-at-risk desired conditions.
- Only conditions on National Forest System lands vary by alternative; conditions on other lands were considered, but were assumed constant for all alternatives.
- New management direction would be implemented immediately (within one year of the Record of Decision).

Quantitative assessment of species viability includes analysis of life history transition probabilities and estimates of the genetic, environmental, demographic, and catastrophic factors affecting them. To support such an assessment, demographic studies are typically conducted by following the fate of individuals of all age/size classes over multiple years in permanent plots or transects. For our species-at-risk, the data needed to conduct this type of viability assessment do not exist to our knowledge. Therefore, only qualitative assessment of projected viability was carried out.

Viability outcomes were based upon the expected likelihood of species persistence or distribution trend within the 10 to 15 year timeframe of the land management plans and the trajectory of this estimated trend out to 50 years. The likelihood of persistence for species-at-risk was evaluated by using the information presented in the species accounts concerning the habitat requirements, life history traits, recent field survey data, and identified threats to the species to compare for each FEIS alternative:

- the mix of land use zones and suitable uses in the alternative;
- the land use zoning at known and suspected locations for the species;
- the program emphases of the alternative, particularly those programs identified as affecting or posing threats to the species; and
- the distribution and size of special designation areas that could provide protection for the species or its habitat.

Forest Plan standards were kept in mind during the assessment, and the assumption that standards would be implemented as designed contributed to the overall outlook for each species. Because the same standards apply in Alternatives 2 through 6, however, forest plan standards only influenced differences in outcome between Alternative 1 and the other six alternatives.

The outcomes of the viability assessments were expressed using a set of “viability outcome statements” in each species account. Two different sets of outcomes were used: one set for plant and invertebrate animal species, and the other for vertebrate animal species. These outcome statement sets are explained below.

For most plant species-at-risk, occurrence locations are fairly well known, and the approximate numbers of plants in the occurrences are documented as well. This information is included in the species accounts. Similarly, the locations of most at-risk species of invertebrate animals are fairly well documented, though population sizes are less likely to have been measured or estimated. This scale of information allows us to make rough estimates about the likely effect of forest plan alternatives on population trends for these species. In the following outcome statements, “well distributed” is in reference to the historic range of the species (as well as it is known), not necessarily the entire southern California area or even an entire national forest. “Stable” implies self-sustaining populations that are reproducing sufficiently that extinction probability is low.

The viability outcome statements used for plant and invertebrate animal species-at-risk on National Forest System lands were:

- A.** Habitat is of sufficient quality, distribution, and abundance to allow the species population to remain stable or stabilize, well distributed across historic range on National Forest System land.
- B.** Habitat is of sufficient quality, distribution, and abundance to allow the species population to remain stable or stabilize, but with significant gaps in the historic species distribution on National Forest System land. These gaps cause some limitations in interactions among populations.
- C.** Habitat only allows continued species existence in isolated patches relative to the historic distribution, with strong limitations on interactions among or within local populations on National Forest System land.
- D.** Habitat conditions likely result in the loss of populations (occurrences) such that the potential for extirpation from National Forest System lands is high.
- E.** Small population size in plants and invertebrates that are inherently rare and not naturally well distributed may result in the loss of populations (occurrences) from stochastic events, such that the potential for extirpation from National Forest System lands is high. Potential for extirpation is unrelated to uses and activities on National Forest System land.

For most vertebrate species, actual population sizes were not known, and even exact location data were not available. As a result, viability outcomes were projected primarily on the basis of expected future habitat distribution and integrity. As in the outcome statements above, “well distributed” is in reference to the historic range of the species (as well as it is known), not necessarily the entire southern California area or even an entire national forest. The Forest Service recognizes that projected habitat distribution does not represent an actual prediction of population occurrence, size, density, or other demographic characteristics, but rather represents the capability of the environment on National Forest System lands to support population abundance and distribution.

The viability outcome statements used for vertebrate animal species on National Forest System lands were:

- A.** Suitable habitat is well distributed and abundant across National Forest System lands.
- B.** Suitable habitat is either well distributed or abundant across National Forest System lands; however, there are temporary gaps where suitable habitat is absent or only present in low

abundance. Disjunct areas of suitable habitat are typically large enough and close enough to permit dispersal and interaction among subpopulations.

C. Suitable habitat is often distributed as patches or exists at low abundance, or both across National Forest System lands. Gaps (where suitable habitat is either absent or present in low abundance) are large enough to isolate some subpopulations, limiting opportunity for species interactions. In most of the species range there are opportunities for dispersal and interaction among subpopulations; however, some subpopulations are so disjunct or of such low density that they are essentially isolated.

D. Suitable habitat is highly isolated or exists at very low abundance, or both across National Forest System lands. While some subpopulations associated with these habitats may be self-sustaining, there is limited or no opportunity for population interaction, resulting in potential for local or regional extirpation, and low likelihood of recolonization. There has likely been a reduction in overall species range from historical conditions, except for some rare, local endemics that may have persisted in this condition since the historical period.

E. Suitable habitat is highly isolated and exists at very low abundance across National Forest System lands. Populations have declined irrespective of habitat conditions or have little or no interaction. This results in strong potential for local or regional extirpation, and no likelihood of recolonization.

Species persistence in the mountains and foothills of southern California can be threatened by factors over which the Forest Service has little influence. Examples of these types of threats include upslope deposition of air pollutants from the Los Angeles basin, climate changes, loss of habitat to private land development, spread of well-established and naturalized nonnative species (such as Mediterranean annual grasses and mustards), and exotic species introduction and augmentation efforts (for example, fish stocking and turkey introductions). For some species, these threats may be the primary causes leading to population reductions and risk of extinction or extirpation in southern California. Thus, management actions proposed in the forest plan alternatives evaluated in this FEIS, no matter how well intentioned, may not be effective in maintaining or restoring species if these primary threats are not addressed and remedied. These limitations are considered and assessed in the evaluation of viability outcomes for all lands (cumulative effects).

Viability outcomes for all lands were expressed using a common set of statements for plants, invertebrate animals, and vertebrate animals. The viability outcome statements used for all land within the range of each species (based in part on the geographic distribution within which the species is projected to persist) were:

A. The combination of environmental (habitat) and population conditions allows the species population to remain stable or stabilize, well distributed across historic range.

B. The combination of environmental (habitat) and population conditions allows the species population to remain stable or stabilize, but with significant gaps in the historic species distribution. These gaps cause some limitations in interactions among populations.

C. The combination of environmental (habitat) and population conditions only allows continued species existence in isolated patches relative to the historic distribution, with strong limitations on interactions among or within local populations.

D. The combination of environmental (habitat) and population conditions likely result in the loss of populations (occurrences).

The results of the viability outcome assessments are given in the following tables, including outcomes for both National Forest System lands and all lands for each species-at-risk:

Table 368: Viability Outcomes By Alternative For Plant Species-At-Risk

Table 372: Viability Outcomes by Alternative for Invertebrate Animal Species-At-Risk

Table 371: Viability Outcomes by Alternative for Vertebrate Animal Species-At-Risk

The distribution of viability outcomes for National Forest System lands (summed by alternative) is shown in the tables below. Alternatives 6 and 3 had the most A outcomes projected for plants and invertebrate animals. Although there were no A outcomes given for vertebrate animals, Alternatives 6, 3, and 4a had the most B outcomes assigned.

Table 198: Plant Viability Outcomes on National Forest System Lands Summed by Alternative

Table 199: Invertebrate Animal Viability Outcomes on National Forest System lands Summed by Alternative

Table 200: Vertebrate Animal Viability Outcomes on National Forest System Lands Summed by Alternative

The distribution of viability outcomes for all lands (summed by alternative) is shown in the following tables. Alternatives 3 and 6 had the most A and B outcomes for plants and invertebrate animals. For vertebrates, Alternatives 3 and 6 had more B and C outcomes relative to Ds than the other alternatives. Alternative 5 had the most D outcomes projected for all taxonomic groups.

Table 204: Plant Viability Outcomes for All Lands Summed by Alternative

Table 207: Invertebrate Animal Viability Outcomes for All Lands Summed by Alternative

Table 210: Vertebrate Animal Viability Outcomes for All Lands Summed by Alternative

Table 368. Viability Outcomes By Alternative For Plant Species-At-Risk

Species	National Forest System Lands							All Lands							
	1	2	3	4	4a	5	6	1	2	3	4	4a	5	6	
<i>Acanthomintha ilicifolia</i>	B	B	A	C	B	C	A		C	C	C	C	C	C	C
<i>Acanthoscyphus parishii</i> var. <i>abramsii</i>	B	B	B	B	B	C	B		B	B	B	B	B	C	B
<i>Acanthoscyphus</i> parishii var. <i>goodmaniana</i>	C	B	B	C	B	C	B		C	B	B	C	B	C	B
<i>Allium hickmanii</i>	C	C	C	C	C	C	C		D	D	D	D	D	D	D
<i>Allium munzii</i>	B	B	B	C	B	C	B		C	C	C	C	C	C	C
<i>Androsace elongata</i> ssp. <i>acuta</i>	B	B	B	B	B	C	B		C	C	C	C	C	C	C
<i>Arabis dispar</i>	B	B	A	B	A	B	A		B	B	B	B	B	B	B
<i>Arabis johnstonii</i>	B	B	A	B	B	C	A		C	C	C	C	C	C	C
<i>Arabis parishii</i>	C	A	A	B	A	C	A		C	B	B	B	B	C	B
<i>Arctostaphylos cruzensis</i>	E	E	E	E	E	E	E		B	B	B	B	B	B	B
<i>Arenaria lanuginosa</i> ssp. <i>saxosa</i>	B	B	B	B	B	C	B		B	B	B	B	B	B	B
<i>Arenaria macradenia</i> var. <i>kuschei</i>	C	B	B	C	B	D	B		C	B	B	C	B	D	B
<i>Arenaria ursina</i>	C	A	A	C	B	C	A		D	D	D	D	D	D	D
<i>Astragalus albens</i>	C	B	B	C	B	C	B		C	B	B	C	B	C	B
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	B	B	A	A	A	C	A		C	C	C	C	C	C	C
<i>Astragalus oocarpus</i>	B	B	A	C	B	C	A		C	C	C	C	C	C	C
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	C	C	A	C	B	D	A		C	C	B	C	C	D	B
<i>Berberis nevinii</i>	B	B	A	B	B	C	A		C	C	C	C	C	C	C
<i>Botrychium crenulatum</i>	B	B	B	B	B	C	B		B	B	B	B	B	B	B
<i>Calochortus clavatus</i> var. <i>gracilis</i>	C	C	B	C	B	C	B		D	D	D	D	D	D	D
<i>Calochortus dunnii</i>	B	B	A	B	B	C	A		B	B	B	B	B	C	B
<i>Calochortus obispoensis</i>	B	B	B	B	B	C	B		C	C	C	C	C	C	C
<i>Calochortus palmeri</i> var. <i>munzii</i>	B	B	A	B	B	B	A		C	C	C	C	C	C	C
<i>Calochortus palmeri</i> var. <i>palmeri</i>	B	B	A	C	B	C	B		C	C	C	C	C	C	C
<i>Calochortus simulans</i>	C	C	C	C	C	C	C		B	B	B	B	B	B	B
<i>Camissonia hardhamiae</i>	E	E	E	E	E	E	E		C	C	C	C	C	C	C
<i>Canbya candida</i>	C	B	B	B	B	C	B		D	D	D	D	D	D	D
<i>Carex obispoensis</i>	B	B	B	C	B	C	B		C	C	C	C	C	C	C

Species	National Forest System Lands							All Lands						
	1	2	3	4	4a	5	6	1	2	3	4	4a	5	6
<i>Castilleja cinerea</i>	C	A	A	C	A	C	A		D	D	D	D	D	D
<i>Castilleja gleasonii</i>	B	B	A	B	A	B	A		B	B	A	B	A	B
<i>Castilleja lasiorhyncha</i>	B	B	A	B	B	C	A		C	C	C	C	C	C
<i>Castilleja plagiotoma</i>	B	B	A	B	A	C	A		D	D	D	D	D	D
<i>Caulanthus amplexicaulis</i> var. <i>barbarae</i>	B	B	B	B	B	C	B		B	B	B	B	B	C
<i>Caulanthus lemmonii</i>	B	B	B	B	B	C	B		C	C	C	C	C	C
<i>Chlorogalum purpureum</i> var. <i>reductum</i>	B	B	B	B	B	C	A		C	C	C	C	C	C
<i>Chorizanthe blakleyi</i>	B	B	B	B	B	C	B		C	C	C	C	C	C
<i>Clarkia jolonensis</i>	B	B	B	B	B	B	A		C	C	C	C	C	C
<i>Claytonia lanceolata</i> var. <i>peirsonii</i>	B	B	B	B	B	C	B		B	B	B	B	B	C
<i>Cupressus stephensonii</i>	E	E	E	E	E	E	E		D	D	D	D	D	D
<i>Delphinium hesperium</i> ssp. <i>cuyamaceae</i>	C	B	B	C	C	C	B		C	C	C	C	C	C
<i>Delphinium hutchinsoniae</i>	B	B	B	B	B	B	B		D	D	D	D	D	D
<i>Dieteria asteroides</i> var. <i>lagunensis</i>	B	B	B	B	B	C	B		C	C	C	C	C	D
<i>Dieteria canescens</i> var. <i>ziegleri</i>	B	B	A	B	B	B	A		C	C	B	C	C	C
<i>Dodecahema leptoceras</i>	B	B	A	B	A	C	A		C	C	B	C	B	C
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	C	A	A	B	A	C	A		C	C	C	C	C	C
<i>Dudleya densiflora</i>	C	C	C	C	C	C	C		D	D	D	D	D	D
<i>Erigeron parishii</i>	C	B	B	C	B	C	B		C	B	B	C	B	C
<i>Eriogonum evanidum</i>	E	E	E	E	E	E	E		D	D	D	D	D	D
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	C	A	A	C	B	C	A		D	D	D	D	D	D
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	C	B	B	C	B	C	B		C	B	B	C	B	C
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	C	B	B	B	B	C	A		C	B	B	B	B	C
<i>Galium californicum</i> ssp. <i>primum</i>	C	C	C	C	C	D	C		C	C	C	C	C	D
<i>Galium grande</i>	C	C	C	C	C	D	C		C	C	C	C	C	D
<i>Gentiana fremontii</i>	C	C	C	C	C	D	C		C	C	C	C	C	C
<i>Horkelia yadonii</i>	B	B	B	B	B	C	B		C	C	C	C	C	C
<i>Ivesia argyrocoma</i>	C	A	A	B	A	C	A		C	B	B	B	B	C
<i>Juncus duranii</i>	B	B	A	B	A	C	A		C	B	B	B	B	C
<i>Lepichinia fragrans</i>	C	C	B	C	B	C	B		B	B	B	B	B	B

Species	National Forest System Lands							All Lands							
	1	2	3	4	4a	5	6	1	2	3	4	4a	5	6	
<i>Leptosiphon floribundus</i> ssp. <i>hallii</i>	B	B	A	B	A	B	A		B	B	A	B	A	B	A
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	B	B	B	B	B	C	B		D	D	D	D	D	D	D
<i>Limnanthes gracilis</i> ssp. <i>parishii</i>	B	B	B	B	B	C	A		B	B	B	B	B	B	B
<i>Linanthus concinnus</i>	B	B	A	B	B	C	A		B	B	A	B	B	C	A
<i>Linanthus killipii</i>	C	A	A	B	A	C	A		D	D	D	D	D	D	D
<i>Lupinus ludovicianus</i>	E	E	E	E	E	E	E		D	D	D	D	D	D	D
<i>Malacothamnus palmeri</i> var. <i>lucianus</i>	D	D	C	D	D	D	C		D	D	C	D	D	D	C
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	E	E	E	E	E	E	E		C	C	C	C	C	C	C
<i>Marina orcuttii</i> var. <i>orcuttii</i>	B	B	A	B	B	B	A		C	C	B	B	C	C	B
<i>Matlea parvifolia</i>	B	B	A	B	B	B	A		B	B	A	B	B	B	A
<i>Mimulus exiguus</i>	C	B	A	C	B	D	A		C	B	B	C	C	D	B
<i>Mimulus purpureus</i>	C	B	A	C	B	D	A		D	D	D	D	D	D	D
<i>Packera bernardina</i>	B	B	A	C	B	C	A		C	C	B	C	C	D	B
<i>Packera ganderi</i>	B	B	B	B	B	C	A		B	B	B	B	B	C	B
<i>Parnassia cirrata</i> var. <i>cirrata</i>	B	A	A	A	A	B	A		B	A	A	A	A	B	A
<i>Penstemon californicus</i>	B	B	A	B	A	C	A		D	D	D	D	D	D	D
<i>Pentachaeta exilis</i> ssp. <i>aeolica</i>	C	C	B	B	B	C	B		D	D	D	D	D	D	D
<i>Phacelia exilis</i>	B	B	A	B	B	C	A		D	D	D	D	D	D	D
<i>Phacelia mohavensis</i>	B	B	A	B	B	C	A		D	D	D	D	D	D	D
<i>Phlox dolichantha</i>	B	A	A	B	B	C	A		C	B	B	C	C	D	B
<i>Physaria kingii</i> ssp. <i>bernardina</i>	C	B	B	B	B	C	B		C	B	B	B	B	C	B
<i>Piperia leptopetala</i>	C	C	C	C	C	D	C		C	C	C	C	C	D	C
<i>Poa atropurpurea</i>	C	B	B	C	B	C	A		C	C	C	C	C	C	B
<i>Podistera nevadensis</i>	B	B	A	A	B	C	A		B	B	A	A	B	C	A
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	B	B	A	C	B	C	A		C	C	B	C	C	C	B
<i>Sanicula maritima</i>	D	D	D	D	D	D	D		C	C	C	C	C	C	C
<i>Sedum niveum</i>	B	B	A	B	B	C	A		B	B	B	B	B	B	B
<i>Sibaropsis hammittii</i>	B	B	A	C	B	C	A		B	B	A	C	B	C	A
<i>Sidalcea hickmanii</i> ssp. <i>hickmanii</i>	C	C	C	C	C	D	B		C	C	C	C	C	D	B
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	C	C	B	C	C	D	B		C	C	C	C	C	D	C

Species	National Forest System Lands							All Lands							
	1	2	3	4	4a	5	6		1	2	3	4	4a	5	6
<i>Sidalcea pedata</i>	B	B	A	B	B	C	A		D	D	D	D	D	D	D
<i>Sidothea emarginata</i>	B	B	A	B	B	B	A		B	B	A	B	B	B	A
<i>Taraxacum californicum</i>	C	B	B	C	B	C	B		C	C	C	C	C	C	C
<i>Thelypodium stenopetalum</i>	B	B	A	B	B	C	A		D	D	D	D	D	D	D
<i>Thermopsis macrophylla</i>	B	B	B	B	B	C	B		B	B	B	B	B	C	B

Table 372. Viability Outcomes by Alternative for Invertebrate Animal Species-At-Risk

Species	National Forest System Lands							All Lands							
	1	2	3	4	4a	5	6		1	2	3	4	4a	5	6
Baldwin Lake blue butterfly, <i>Euphilotes enoptes</i> ssp. near <i>dammersi</i>	B	A	A	B	A	C	A		B	A	A	B	A	C	A
California delectronan caddisfly, <i>Diplectrona californica</i>	E	E	E	E	E	E	E		D	D	D	D	D	D	D
Desert monkey grasshopper, <i>Psychomastix deserticola</i>	B	B	B	B	B	C	B		B	B	B	B	B	C	B
Ehrlich's checkerspot, <i>Euphydryas editha ehrlichi</i>	B	B	B	B	B	C	A		B	B	B	B	B	C	A
Harbison's dun skipper, <i>Euphyes vestris harbisoni</i>	B	B	A	B	B	C	A		C	C	B	C	C	D	B
Hermes copper butterfly, <i>Lycaena hermes</i>	C	B	B	B	B	C	B		C	C	C	C	C	C	C
Laguna Mountains skipper, <i>Pyrgus ruralis lagunae</i>	C	C	C	C	C	D	B		C	C	C	C	C	D	B
Quino checkerspot, <i>Euphydryas editha quino</i>	B	B	B	B	B	C	A		C	C	C	C	C	C	C
San Gabriel Mountains elfin, <i>Incisalia mossii hidakupa</i>	B	B	A	B	B	B	A		B	B	A	B	B	B	A
Vernal or Coxey blue butterfly, <i>Euphilotes baueri [battoides] vernalis</i>	B	B	B	B	B	C	A		B	B	B	B	B	C	A

Table 371. Viability Outcomes by Alternative for Vertebrate Animal Species-At-Risk

Species	National Forest System Lands							All Lands							
	1	2	3	4	4a	5	6	1	2	3	4	4a	5	6	
Arroyo toad	D	C	C	D	C	E	C		D	C	C	D	C	D	C
California red-legged frog*	D	D	D	D	D	D	D		D	D	D	D	D	D	D
Coast range newt	D	C	C	C	C	D	C		D	C	C	C	C	D	C
Mountain yellow-legged frog	E	E	E	E	E	E	E		D	D	D	D	D	D	D
Western spadefoot toad	D	C	C	D	C	D	C		D	D	C	D	D	D	C
American dipper	D	C	C	D	C	D	C		D	C	C	D	C	D	C
Bald eagle (breeding)	B	B	B	B	B	C	B		C	C	C	C	C	D	C
Black swift	D	C	C	C	C	D	C		D	C	C	C	C	D	C
California condor	B	B	B	B	B	C	B		C	C	C	C	C	D	C
California spotted owl	C	C	C	C	C	D	C		C	C	C	C	C	D	C
Calliope hummingbird	D	C	C	D	C	D	C		D	C	C	D	C	D	C
Coastal California gnatcatcher	D	C	C	C	C	D	C		D	D	D	D	D	D	D
Common yellow-throat	D	C	C	D	C	D	C		C	C	C	C	C	C	C
Flammulated owl	B	B	B	B	B	C	B		B	B	B	B	B	C	B
Golden eagle	C	C	B	C	B	D	B		D	D	C	D	C	D	C
Least Bell's vireo	D	C	C	D	C	D	C		D	D	D	D	D	D	D
Lincoln's sparrow	D	C	C	D	C	D	C		D	C	C	D	C	D	C
Long-eared owl	C	C	B	C	B	D	B		D	D	C	D	D	D	C
MacGillivray's warbler	D	C	C	D	C	D	C		D	C	C	D	C	D	C
Prairie falcon	C	C	B	C	B	D	B		D	D	C	D	C	D	C
Purple martin	C	C	C	C	C	D	B		C	C	C	C	C	D	C
Southwestern willow flycatcher	D	C	C	D	C	D	C		D	D	D	D	D	D	D
Swainson's thrush	D	C	C	D	C	D	C		C	C	C	C	C	C	C
Turkey vulture (breeding)	C	C	B	C	B	D	B		D	D	C	D	D	D	C
Western snowy plover	C	C	C	C	C	C	C		D	D	D	D	D	D	D
Wilson's warbler	D	C	C	D	C	D	C		D	C	C	D	C	D	C
Yellow-breasted chat	D	C	C	D	C	D	C		C	C	C	C	C	C	C
Arroyo chub	D	C	C	D	C	D	C		D	C	B	C	C	D	B

Species	National Forest System Lands								All Lands							
	1	2	3	4	4a	5	6		1	2	3	4	4a	5	6	
Pacific lamprey	D	D	D	D	D	D	D		D	D	D	D	D	D	D	
Partially armored three-spine stickleback	D	C	C	D	D	D	C		D	C	C	D	D	D	D	
Santa Ana speckled dace	D	D	D	D	D	D	C		D	D	D	D	D	D	D	
Santa Ana sucker	D	D	D	D	D	E	D		D	D	D	D	D	D	D	
Southern steelhead, southern California ESU	E	E	E	E	E	E	E		D	D	D	D	D	D	D	
Southern steelhead, south-central ESU	D	D	D	D	D	D	D		D	D	D	D	D	D	D	
Unarmored three-spine stickleback	D	D	D	D	D	E	D		D	D	D	D	D	D	D	
American badger	C	C	B	C	B	D	B		D	D	C	D	C	D	C	
Mountain lion	C	C	B	C	B	D	B		D	D	C	D	C	D	C	
Nelson's bighorn sheep	C	C	B	C	B	C	B		C	C	B	C	B	C	B	
Peninsular bighorn sheep	C	C	C	C	C	C	C		C	C	C	C	C	C	C	
San Bernardino flying squirrel*	C	C	C	C	C	D	C		C	C	C	C	C	D	C	
San Bernardino kangaroo rat	D	D	D	D	D	D	D		D	D	D	D	D	D	D	
Townsend's big-eared bat	B	B	B	B	B	C	B		C	C	C	C	C	D	C	
Belding's orange-throated whiptail	D	C	B	C	C	D	B		D	D	D	D	D	D	D	
Mountain garter snake	C	C	B	C	B	D	C		D	C	C	D	C	D	C	
Southern rubber boa*	B	B	B	B	B	C	B		C	C	C	C	C	D	C	
Southern Pacific pond turtle	D	C	C	D	C	D	C		D	D	C	D	D	D	C	

*Outcome is different for the southern margin of species' range for California red-legged frog, southern rubber boa, and San Bernardino flying squirrel. See species accounts for geographical differences in viability outcomes.

Table 198. Plant Viability Outcomes on National Forest System Lands Summed by Alternative

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 4a	Alt. 5	Alt. 6
A	0	9	42	3	14	0	47
B	52	63	35	49	61	11	31
C	32	12	8	32	9	63	7
D	2	2	1	2	2	12	1
E	6	6	6	6	6	6	6

Table 199. Invertebrate Animal Viability Outcomes on National Forest System lands Summed by Alternative

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 4a	Alt. 5	Alt. 6
A	0	1	3	0	1	0	6
B	7	7	5	8	7	1	3
C	2	1	1	1	1	7	0
D	0	0	0	0	0	1	0
E	1	1	1	1	1	1	1

Table 200. Vertebrate Animal Viability Outcomes on National Forest System Lands Summed by Alternative

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 4a	Alt. 5	Alt. 6
A	0	0	0	0	0	0	0
B*	5	5	14	5	13	0	14
C*	13	32	23	17	23	8	24
D*	26	7	7	22	8	33	6
E	2	2	2	2	2	5	2

*Outcome is different for the southern margin of species' range for California red-legged frog, southern rubber boa, and San Bernardino flying squirrel. See species accounts for geographical differences in viability outcomes.

Table 204. Plant Viability Outcomes for All Lands Summed by Alternative

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 4a	Alt. 5	Alt. 6
A	0	1	8	2	3	0	9
B	22	33	32	25	30	13	35
C	49	37	32	44	38	47	28
D	22	22	21	22	22	33	21

Table 207. Invertebrate Animal Viability Outcomes for All Lands Summed by Alternative

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 4a	Alt. 5	Alt. 6
A	0	1	2	0	1	0	4
B	5	4	4	5	4	1	3
C	4	4	3	4	4	6	2
D	1	1	1	1	1	3	1

Table 210. Vertebrate Animal Viability Outcomes for All Lands Summed by Alternative

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 4a	Alt. 5	Alt. 6
A	0	0	0	0	0	0	0
B	1	1	3	1	2	0	3
C	12	23	29	15	25	6	28
D	33	22	14	30	19	40	15

Viability Outcomes for Species Not Considered At-Risk

Species of concern which were not determined to have substantial threats to persistence or distribution from Forest Service activities (i.e., were not considered to be species-at-risk) have the same projected viability under all alternatives. The amount of habitat alteration that would occur under the different alternatives would not be sufficient to substantially change the outlook for these species or for all those others that were considered to have low vulnerability in the initial analysis (SCMFA and subsequent Forest Service biologist reviews). These species are expected to remain well distributed within their current range on National Forest System lands. None of the forest plan alternatives are expected to contribute to cumulative effects to these species and their habitats or to alter the overall distribution of these species across all lands where they occur.

Future Use of Species Accounts Developed for this Analysis

The species accounts generated for this analysis (all 482 species of concern) are considered to be dynamic documents that will be updated continuously when new information becomes available as a result of surveys, monitoring and evaluation. Forest Plan standard S-11 directs personnel on the four southern California national forests to consult these accounts (and other species guidance documents, such as recovery plans and conservation strategies), using the conservation considerations therein to generate project-specific design criteria to avoid, minimize or mitigate long-term negative impacts on listed, proposed, candidate or sensitive species in on-going or proposed new activities and projects.

As noted above, the species accounts are found on the Forest Plan Revision website (www.fs.fed.us/r5/scfpr/read/) and on the CD version of the final forest plan revision documents.

Explanation of CNPS Lists and R-E-D Codes (California Native Plant Society 2001)

List 1A: Plants presumed extinct in California

List 1B: Plants rare, threatened, or endangered in California and elsewhere

List 2: Plants rare, threatened, or endangered in California, but more common elsewhere

List 3: Plants about which we need more information - a review list

List 4: Plants of limited distribution - a watch list

R = Rarity

- Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- Distributed in a limited number of occurrences, occasionally more if each occurrence is small.
- Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported.

E = Endangerment

- Not endangered.
- Endangered in a portion of its range.
- Endangered throughout its range.

D = Distribution

- More or less widespread outside California.
- Rare outside California.
- Endemic to California.

Explanation of Heritage Rank Codes

Heritage rankings are developed by NatureServe and its natural heritage program partners, based on best available information. Explanation of the rankings can be found on the NatureServe website (www.natureserve.org/explorer/ranking.htm#interpret) and is summarized below.

Global ranking -- applies to entire range of a species

G1 - Critically Imperiled--Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (less than 1,000) or acres (less than 2,000) or linear miles (less than 10).

G2 - Imperiled--Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction or elimination. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000) or linear miles (10 to 50).

G3 - Vulnerable--Vulnerable globally either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction or elimination. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.

G4 - Apparently Secure--Uncommon but not rare (although it may be rare in parts of its range, particularly on the periphery), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. Typically more than 100 occurrences and more than 10,000 individuals.

G5 - Secure--Common, widespread, and abundant (although it may be rare in parts of its range, particularly on the periphery). Not vulnerable in most of its range. Typically with considerably more than 100 occurrences and more than 10,000 individuals.

G? - Unranked--Global rank not yet assessed.

HYB - Hybrid--Element not ranked because it represents an interspecific hybrid and not a species.

T# - Intraspecific Taxon (trinomial)--The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above.

Subnational ranking -- in the U.S., this applies to a particular state.

S1 - Critically Imperiled--Critically imperiled in the nation or subnation because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from the subnation. Typically 5 or fewer occurrences or very few remaining individuals (less than 1,000).

S2 - Imperiled--Imperiled in the nation or subnation because of rarity or because of some factor(s) making it very vulnerable to extirpation from the nation or subnation. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000).

S3 - Vulnerable--Vulnerable in the nation or subnation either because rare and uncommon, or found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extirpation. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.

S4 - Apparently Secure--Uncommon but not rare, and usually widespread in the nation or subnation. Possible cause of long-term concern. Usually more than 100 occurrences and more than 10,000 individuals.

S5 - Secure--Common, widespread, and abundant in the nation or subnation. Essentially ineradicable under present conditions. Typically with considerably more than 100 occurrences and more than 10,000 individuals.

S? - Unranked--Nation or subnation rank not yet assessed.

Background

The southern California national forests have been involved in striving to protect landscape linkages and wildlife movement corridors within and between the national forests for many years. In March 1991, the Forest Service helped organize and host a workshop with the Interagency Natural Areas Coordinating Committee at the Forest Service Riverside Fire Lab on wildlife corridors (Beier and Loe 1992). Efforts over the last two decades have focused on maintaining the connections between large blocks of wildlands, including the national forests. Areas that have received considerable attention include the Santa Ana Mountains-Chino Hills connection, the Santa Ana Mountains-Palomar Mountain connection, the San Gabriel-San Bernardino Mountain connection, the San Gabriel Mountain-Castaic connection, and the Sierra Madre-Sierra Nevada (Tehachapi) connection.

All of the southern California national forests participated in the November 2000 statewide Missing Linkages Workshop, which was sponsored by The Nature Conservancy, U.S. Geological Survey, California State Parks, California Wilderness Coalition, and San Diego Zoo. Over 200 land managers and biologists from throughout California met in San Diego and identified 232 actual or potential linkage areas needed to sustain ecosystem processes in protected wildlands (Penrod and others 2001). Following this meeting, the South Coast Missing Linkages project was initiated. Partners that have contributed funding or in-kind support to this effort include the State of California Resources Agency, California State Parks, California Legacy Project, California State Parks Foundation, South Coast Wildlands, Forest Service, National Park Service, Santa Monica Mountains Conservancy, Wildlands Conservancy, Zoological Society of San Diego, San Diego State University Field Station Programs, Conservation Biology Institute, The Nature Conservancy, Pronatura, Universidad Autonoma de Baja California, and Conabio. The South Coast Missing Linkages project is coordinated by South Coast Wildlands, a non-profit group with the goal of conserving essential linkages throughout the South Coast Ecoregion (Beier and others 2005). They maintain a website for the South Coast Missing Linkages project (<http://scwildlands.org/>), coordinate agency and public workshops and meetings, conduct studies of linkage areas, maintain Geographic Information System (GIS) coverage of the various linkage areas, produce reports for specific linkage designs, and serve as managers or co-managers of some linkage areas.

The 2000 workshop identified 60 linkages entirely within the south coast ecoregion and an additional nine connecting to wildlands in other ecoregions. Many of these linkages included connections to the national forests. These linkages were prioritized by the various South Coast Missing Linkage partners to come up with a list of linkages to focus on in the near future. Virtually all of the 15 priority linkages are critical to the Forest Service in meeting long-term biodiversity goals. The Forest Service agreed to be linkage managers or co-managers (entity most responsible for planning that linkage) for some of these linkages (Beier and others 2005). Specific linkage workshops have been held for some of the linkages, and the national forests have participated in these. The San Bernardino National Forest co-authored the Linkage Design Report for the San Gabriel-San Bernardino Mountain connection.

In recent years, the Cleveland and San Bernardino National Forests have been involved with the counties, other local governments, the state, multiple federal agencies and private individuals and groups in the preparation of multi-species habitat conservation plans for areas of non-federal land in and adjacent to the national forests. Plans that involved coordination with the southern California national forests have been prepared in San Diego, Orange, Riverside and San Bernardino Counties (table 559. County Multi-species Planning Efforts Affecting the Southern California National Forests). These plans have attempted to provide for landscape linkages between large blocks of protected natural open space including the national forests. The national forests have participated in these processes and have generally agreed to support these efforts with compatible management on the national forests.

Table 559. County Multi-species Planning Efforts Affecting the Southern California National Forests

Planning Name	County	Forests	Web site(s)
County of San Diego Multiple Habitat Conservation and Open Space Program (MHCOSP)	Eastern San Diego	Cleveland	www. sdcounty. ca. gov/dpl u
Multiple Species Conservation Program (MSCP) – the South County Subarea	Southwestern San Diego	Cleveland	www. sdcounty. ca. gov/dpl u
Multiple Species Conservation Program (MSCP) North County Subarea	Northwestern San Diego	Cleveland	www. sdcounty. ca. gov/dpl u
Southern Orange County Coordinated Planning Process (SOCCPP)	Southern Orange	Cleveland	pdsd. oc. ca. gov/pl anni ng/soccpp/i ndex. asp
Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)	Western Riverside	Cleveland and San Bernardino	rcip. org/conservati on. htm
Coachella Valley MSHCP	Coachella Valley portion of Eastern Riverside	San Bernardino	www. cvmshcp. org/
West Mojave Plan	Western Mojave Desert of San Bernardino	San Bernardino	www. moj avedata. gov/westmoj ave/i nfo. html

Plan Revision Process

Habitat linkages were identified as an issue during scoping for the forest plan revision. In addition, the Missing Linkages Project document was submitted during scoping by groups interested in seeing the Missing Linkages Project implemented by the national forests.

Two processes were used to propose land use zoning that promoted habitat and landscape linkages for wildlife and plant movement within and across the four southern California national forests.

The first process used the Missing Linkages Project (Penrod and others 2001) information and maps to review linkages between mountain ranges, within the four southern California national forests, and between the national forests as well. The twelve habitat linkages that were described in public comments we received and also included in the Missing Linkages Project were used to propose zoning for wildlife movement in four of the six alternatives in the Draft Environmental Impact Statement (DEIS). These four alternative land use zoning maps were developed from Forest Service GIS data as well as the maps from the Missing Linkages Project that show existing areas used for wildlife corridors, and those lands identified as still being needed to complete existing corridors. In addition, established and recommended Wildernesses, Core and proposed Agency Lands, Connectivity Zones, and Stewardship Zones were also utilized. Maps were compared and locations of priority linkages were reviewed with the following question in mind: Are these habitat linkages that connect to the national forests zoned in such a way as to provide for plant and animal population connectivity at the connection points? These general areas were then zoned in some alternatives for uses compatible with keeping the landscape in a more natural or less developed and less roaded status.

In many locations in Alternatives 3 and 6, established and/or recommended wilderness designation or Back Country Non-Motorized zoning was currently in place and no modifications to the zoning were needed. In locations where this did not occur, the connection point was zoned as Back Country Non-Motorized where feasible. The zoning in Alternative 2 was similar to Alternative 3 in most situations. Some of the proposed zoning was carried into Alternative 4 where it did not conflict with multiple-use objectives. No Recommended Wilderness, Critical Biological or Back Country Non-Motorized zoning was proposed for Alternative 5.

The second process involved use of the existing Wildlife Emphasis Area maps located in the current San Bernardino National Forest Land Management Plan and local knowledge of interdisciplinary (ID) team specialists and national forest biologists and botanists. This process looked at the proposed zoning of Wildlife Emphasis Area locations on the San Bernardino National Forest in Alternatives 2, 3, 4, and 6. If Wildlife Emphasis Areas were zoned within established or Recommended Wilderness, Back Country Non-Motorized or Critical Biological zoning, no changes were recommended. If not, adjacent polygons were proposed for Back Country Non-Motorized zoning. Some situations occurred where a portion of the area remained Back Country. All locations in Alternative 6 would have been provided protection by one or several of these zoning categories, as would most locations in Alternative 3 and some locations in Alternatives 2 and 4. Again, no Recommended Wilderness, Critical Biological or Back Country Non-Motorized zoning was proposed in Alternative 5.

Following review of the preferred Alternatives 2 and 4 in the DEIS, public and internal comments from individuals, groups, state and local governments and Forest Service biologists identified some weaknesses related to landscape linkages and wildlife corridors.

Using information gathered from the public comments and internal review, the individual Forest Leadership Teams with the help of the forest plan revision ID team designed the selected alternative (Alternative 4a) by modifying the land use zoning found in the preferred alternatives with selected elements from the other alternatives. The Forest Service defined a commitment to providing for these regionally significant corridors and linkages through a combination of land use zoning, special designations (recommended wilderness, research natural areas and special interest areas), and

strengthened desired conditions, standards, and Place descriptions. New information from specific linkage design reports and multi-species habitat conservation plans that were completed between the DEIS and the final EIS was also used to develop Alternative 4a.

Some public comments in response to the DEIS and the forest plan preferred alternatives were also received suggesting that it was not necessary to provide for wildlife linkages. Alternative 5 continues to address this concern, as no provisions for wildlife linkages are proposed in this alternative.

Management Indicator Species Selection Process

Introduction

The National Forest Management Act (NFMA) regulations of 1982, under which this forest plan revision was initiated and conducted, require selection of management indicator species (MIS) during development of forest plans (36 CFR [Code of Federal Regulations] 219.19(a), 1982). Reasons for their selection must be stated. This document describes the process and rationale used to select MIS for the revised land management plans for the national forests of southern California.

Identification of MIS is but one tool used to develop management strategies and monitoring programs designed to meet NFMA requirements related to diversity of plant and animal communities. Other planning elements related to plant and animal diversity include objectives, strategies, and standards for management of vegetation, recreation, grazing, minerals, special uses, and biological resources; biological assessments and evaluations at both the forest plan and site-specific project levels; and evaluation of threats and risk to species of viability concern at the forest plan level. Other elements important to monitoring effects of plan implementation on plant and animal diversity include, where appropriate, monitoring of key ecological and habitat conditions, species assemblages, harvest levels of game and other demand species, and populations of threatened, endangered, and sensitive species. These elements were considered during the selection of MIS.

MIS Selection Criteria

Management indicator species are to be selected “because their population changes are believed to indicate the effects of management activities” (36 CFR 219.19(a)(1), 1982). They are to be used during planning to help compare effects of alternatives (36 CFR 219.19(a)(2), 1982), and they serve as a focus for monitoring during forest plan implementation (36 CFR 219(a)(6), 1982). Where appropriate, MIS can represent the following groups of species (36 CFR 219(a)(1), 1982):

- Threatened and endangered species on state and federal lists;
- Species with special habitat needs;
- Species commonly hunted, fished, or trapped;
- Non-game species of special interest; and
- Species selected to indicate effects of management activities on other species of selected major biological communities or on water quality.

One of the guiding principles in the selection process was to look for and identify species with wide distributions and representative management concerns that could serve as province-wide MIS. The rationale for this approach is two-fold:

- Gain economy of scale by working together across administrative boundaries to use common species, techniques, and analysis processes to facilitate inter-forest interpretation of the data.
- Many of the issues facing the plant and wildlife populations in southern California are the result of landscape level stressors and include the Chief’s four threats – fire and fuels, invasive species, unmanaged recreation, and loss of open space. Meaningful monitoring of forest plan implementation often can only occur at the bioregional, multi-forest, or province level.

In our selection process, the Forest Service also kept in mind that although the regulation requires the selection of certain vertebrate and/or invertebrate species as MIS, it does not preclude the selection of other life forms. Vascular plants were included as candidates for MIS as these species are often good indicators of vegetation community health, are often wide-ranging, and may provide a more sensitive early-warning system for landscape-level stressors.

Because understanding about how MIS should be used has changed since the original forest plans were developed, Regional Office and national forest biologists and botanists who were most familiar with the use of MIS in forest planning were consulted for advice in the selection process. Several biologists on the planning team attended a regional workshop on selection and use of MIS in December 2002 to get further clarification on how best to choose MIS.

Consideration of species as management indicators for the revised forest plans started with current lists of MIS (see table 432: Existing Management Indicator Species by National Forest). Additional species were considered under each of the five categories of potential MIS identified under 36 CFR 219(a)(1) (1982). All species considered were assessed in part using the current Forest Service, Region 5 criteria to determine their appropriateness as MIS. These criteria include:

- Measurable changes in the species' population indicate trends in the abundance of other species, or measurable changes in the species' abundance indicate the condition of the biological communities they are selected to represent;
- Measurable changes in the species' population should strongly reflect the effects of national forest management activities; and
- Population trends of the species must be capable of being effectively and efficiently monitored and evaluated; i.e., survey and monitoring techniques should be available and implementable to address questions related to specific national forest management practices.

Table 432. Existing Management Indicator Species by National Forest

	ANF	CNF	LPNF	SBNF
Birds				
Bald eagle		X	X	X
California condor	X		X	X
Peregrine falcon		X	X	X
Least Bell's vireo	X	X	X	X
California spotted owl	X	X	X	X
California quail		X	X	X
Riparian bird assemblage	X	X	X	X
Conifer and oak woodland bird assemblage	X			X
Chaparral bird assemblage	X	X		X
Pinyon/juniper bird assemblage	X			X
Cavity nesters		X	X	X
Turkey		X		
Turkey vulture				X
Northern goshawk				X
Cooper's hawk				X
Sharp-shinned hawk				X
Zone-tailed hawk				X
Long-eared owl				X
Osprey				X
Golden eagle				X
Prairie falcon				X
Yellow-billed cuckoo				X
Black swift				X
Lewis' woodpecker				X
Willow flycatcher				X
Purple martin				X
Tree swallow				X
Black-tailed gnatcatcher				X
Swainson's thrush				X
Le Conte's thrasher				X
Black-shouldered kite				X
Grey vireo				X
Yellow warbler				X
Wilson's warbler				X
Yellow-breasted chat				X
Hepatic tanager				X
Waterfowl				X

	ANF	CNF	LPNF	SBNF
Reptiles and Amphibians				
California red-legged frog				X
Foothill yellow-legged frog				X
Mountain yellow-legged frog				X
Western pond turtle				X
Coast horned lizard				X
Southern rubber boa				X
Mammals				
Bighorn sheep	X			X
Mule deer	X	X	X	X
Gray squirrel			X	X
California leaf-nosed bat				X
Townsend's big-eared bat				X
Northern flying squirrel				X
Los Angeles pocket mouse				X
White-eared pocket mouse				X
Badger				X
Mountain lion				X
Black bear *				X
Rabbits				X
Furbearers				X
Stephen's Kangaroo Rat		X		
Fish				
Steelhead trout			X	
Rainbow trout	X	X	X	
Unarmored 3 spine stickleback				X
Santa Ana sucker				X
Speckled dace				X
Mojave tui chub				X
Arroyo chub		X	X	X
Brown trout *				X
Largemouth bass *				X
Native fish assemblage	X			

*Game species

For the species found on the national forests of southern California, the above criteria are difficult to meet, especially for this programmatic level of planning. Site-specific information does not exist about species distributions and population levels at the individual national forest level for most MIS that do not have special status (e.g., threatened, endangered, or sensitive). Where population information does exist, it is typically inadequate for making cause and effect evaluations about specific land management activities or for comparing the effects of activities on public lands to those on private lands. Given the lack of information and programmatic nature of the alternatives, it is not possible to predict quantitative changes to populations as a result of implementing alternatives. Predation, hunting, fishing, droughts, fires, and floods, all of which can cause drastic changes in the size of affected populations, often affect species and habitats. Many species and their habitats on National Forest System lands are substantially

influenced by uses and activities beyond the control of the Forest Service, such as dams and water diversions, highways, and development on land within or adjacent to the national forests of southern California. Furthermore, there is a paucity of agreed-upon protocols for determining the size of wildlife populations, and where such protocols exist they often require frequent and rigorous survey efforts. These types of protocol surveys are often prohibitively expensive to implement. These issues make selection of MIS difficult.

The 2005 Planning Rule, which was finalized after these revised forest plans were substantially completed, allows the use of habitat data and analysis for MIS monitoring in the implementation of forest plans revised under the 1982 Planning Rule, unless population monitoring or population surveys are specifically required by the forest plan (219.14(f), 2005). This provides more realistic flexibility for monitoring MIS and their habitat at the programmatic or province (multiple national forest) level. In the end, species were chosen that represent an important management concern where plan and project design and implementation could be evaluated and compared. Where more appropriate and cost effective, habitat will be monitored rather than populations. Where populations are monitored, monitoring design will result in data that can provide conclusions at a broad landscape scale for the province.

Species Selected for MIS

Twelve species were selected as management indicator species for the revised forest plans (see table 433: Management Indicator Species Selection and Monitoring Information). They were used to assess effects of alternatives and will be used to help monitor effects of implementing the selected alternative. Additional information on the ecological situation and management concerns for these species can be found in the Biological Diversity section of the Affected Environment.

Mule Deer

Mule deer was selected as a MIS to answer the question, “Are shrub, woodland, and forest habitats being managed adequately to provide the quality and quantity of habitat for species dependent on or strongly associated with large blocks of healthy, diverse wildland with low to moderate human disturbance?” Mule deer abundance will be used to monitor the effects of Forest Service management on landscape patterns in chaparral age class diversity related to fire and on motorized road and trail density. Mule deer is also an indicator of Forest Service effectiveness in working with state agencies and other interested groups. Monitoring will be conducted by the California Department of Fish and Game through on-going interagency efforts with the intent of monitoring herd size and distribution as well as habitat condition. Where possible, demographic data will be gathered as well to better estimate population trends. A long-term increase in the size of a herd will be used as an indicator of the effectiveness of forest plan objectives and standards in moving wildlife habitat toward desired conditions.

Although trends in mule deer populations are difficult to detect, the Forest Service believes they can be determined through cooperation with the California Department of Fish and Game. Observed changes in mule deer abundance may not be due entirely to the effects of Forest Service management. This lack of a precise cause-and-effect relationship is due to the complex interrelationship between deer herd size, hunting pressure, human developments, disturbance and roads, and vegetation management practices on private wildlands. However, the Forest Service recognizes that mule deer population trends on the national forests are in large part dependent on Forest Service management of recreation, roads and vegetation. Because providing suitable deer habitat is an important management objective for the national forests of southern California, it is important for the Forest Service to engage in interagency monitoring efforts of deer population abundance and habitat condition. In addition, mule deer and its habitat can be used to evaluate the effects of different strategies in forest plan alternatives for recreation, vegetation and road management.

Table 433. Management Indicator Species Selection and Monitoring Information

Issue	Habitat Type	MIS	Objectives	Monitoring Method	Measure
Vegetation diversity and age class mosaics; roads and recreation effects	All	Mule deer	Stable or increasing well-distributed populations	Herd composition in cooperation with CDFG; habitat condition	Trend in abundance and/or habitat condition
Landscape linkages; habitat fragmentation	All	Mountain lion	Functional landscape linkages; species well-distributed	Studies in cooperation with CDFG, USGS	Trend in distribution, movement and/or habitat conditions
Ground disturbance including trampling and compaction; spread of invasive nonnative species; mortality from collision; altered stream flow regimes	Aquatic and riparian habitats	Arroyo toad	Properly functioning streams; stable or increasing populations	Population abundance and/or habitat condition in selected locations	Trends in abundance, distribution, and/or habitat conditions
		Song sparrow	Stable or increasing populations; healthy riparian habitat	Riparian bird species point counts and/or habitat condition	Trend in abundance and/or habitat condition
Oak regeneration	Oak woodlands and savannas	Blue oak	Perpetuate habitat type	FIA data	Trend in sapling abundance
		Valley oak	Perpetuate habitat type	FIA data	Trend in sapling abundance
		Engelmann oak	Perpetuate habitat type	FIA data	Trend in sapling abundance
Drought/beetle-related mortality and lack of fire	Chaparral/ conifer ecotone	Coulter pine	Maintain Coulter pine habitat	FIA data; aerial photo-monitoring	Trend in age/size class distribution

Issue	Habitat Type	MIS	Objectives	Monitoring Method	Measure
Altered fire regimes (fire severity and/or fire return interval)	Chaparral/ conifer ecotone	Bigcone Douglas-fir	Maintain bigcone Douglas-fir stands	FIA data; photo-monitoring	Trend in extent of vegetation type
	Mixed conifer forests	California spotted owl	Maintain/increase numbers and distribution	FS Region 5, CDFG protocol	Occupied territories and/or habitat condition
		Black oak	Maintain or increase numbers	FIA data	Trend in abundance, size class distribution
		White fir	Pre-settlement age/size class distribution	FIA data	Trend in size class distribution

Mountain lion and mule deer monitoring needs to be conducted across land jurisdictions through interagency cooperation to be efficient and effective.

FIA: Forest Inventory and Analysis

CDFG: California Department of Fish and Game

USGS: United State Geological Survey

Mountain Lion

The mountain lion was selected as a MIS to evaluate and guide planning related to the effects of Forest Service management activities on landscape level habitat fragmentation and habitat linkages. The mountain lion is the largest carnivore on the four southern California national forests, and it requires large core habitat areas, abundant prey, and habitat connectivity between subpopulations. The Forest Service believes that interagency, inter-forest monitoring of mountain lion populations, habitat, and landscape linkages can be used to estimate the effects of national forest management on mountain lion abundance and distribution, and that trends can be an indicator of the condition of biological communities at the landscape level. Maintaining linkages between national forests and to other protected wildlands is critical to the future of mountain lions and other species, and continued mountain lion movement will measure the effectiveness of the national forests in cooperating with other agencies in providing for landscape linkages.

Arroyo Toad

The arroyo toad was selected as an indicator to answer the question, "Is arroyo toad habitat being managed to achieve protection and recovery objectives for the species?" In selecting the arroyo toad, the Forest Service considered the following:

- The arroyo toad is an indicator of aquatic habitat quality (U.S. Fish and Wildlife Service 2001)
- It occurs on all four national forests in southern California.
- Considerable effort is being directed toward the management of the arroyo toad in the form of land use designations and use of site-specific mitigations. There is a need to predict how effective these measures will be, followed by monitoring to determine actual species response and effectiveness of management actions.
- Short-term fluctuations in arroyo toad populations may not indicate the effects of management actions, being strongly influenced by weather patterns. However, management believes that long-term trends in arroyo toad population abundance, distribution, and habitat condition will reflect the effectiveness of management activities in protecting and improving habitat conditions for arroyo toads, as well as other riparian dependent species, that are susceptible to high levels of human disturbance and habitat degradation.

Song Sparrow

The song sparrow was selected to answer the question, "Is riparian habitat being managed to provide the quality and quantity of habitat for species dependent on or strongly associated with riparian areas?" The song sparrow was selected because its abundance is expected to be responsive to management actions as well as indicating trends in the status of the biological community. For example, song sparrow abundance is negatively correlated with the use of riparian understories for grazing and recreation (Marshall 1948a, 1948b) and positively correlated with the abundance of herbaceous vegetation (Ballard and Geupel 1998). Monitoring song sparrow abundance and/or habitat condition will provide insight into the effects of grazing and recreation use on riparian bird communities. Long-term changes in the size of the song sparrow population or habitat conditions will be used as an indicator of the effectiveness of forest plan objectives and standards in moving riparian habitats toward desired conditions. The song sparrow is widely distributed throughout the southern California national forests and is relatively easily monitored using point count methods that have been used for many years on the national forests. A ten-year data set on a monitoring scheme, developed in cooperation with the Pacific Southwest Forest and Range Experiment Station, already exists for the national forests that can be used as a baseline for future comparison.

Foothill Oak Woodland/Savanna Species

Abundance of blue oak, Engelmann oak, and valley oak saplings will be monitored to answer the question, "Is management successful in preventing the conversion of savannas and woodlands to annual grasslands or other non-oak vegetation types?" Lack of oak regeneration has been identified as a problem in these vegetation types, attributed to the combined effects of livestock grazing, deer browsing, competition from nonnative annual grasses, and unnatural abundance of some acorn-eating animals such as gophers and ground squirrels (Borchert and others 1989, Pavlik and others 1991). Monitoring abundance of these oak species, particularly saplings, will indicate whether Forest Service management has been successful in creating conditions favorable for oak regeneration and, in consequence, maintenance of this habitat type.

Coulter Pine

Coulter pine was selected as a MIS because of the concern that drought and bark beetle-caused mortality without subsequent burning to open the cones could be jeopardizing seedling establishment and stand persistence. Monitoring will help answer the question "Is vegetation and fire management providing the ecological conditions necessary to maintain Coulter pine?"

Bigcone Douglas-Fir

Bigcone Douglas-fir was selected as a MIS because of concern about the effects of increased fire frequency and severity on this habitat type. Altered fire regimes are affecting the abundance and distribution of this tree and the vegetation series of which it is the dominant constituent element. The bigcone Douglas-fir habitat type is one that will be a major focus of vegetation management projects, and the bigcone Douglas-fir trees themselves are an obvious and appropriate indicator of the successful restoration and maintenance of this community.

Montane Conifer Forest Species

The California spotted owl, California black oak, and white fir were selected as MIS for the montane conifer forest habitat type. These species were selected because their populations and their population structure are indicators of the condition of montane conifer forests. Taken together, population trends of these species will indicate progress toward achieving the desired condition for montane conifer forest habitat that contain large patches of mature trees with reduced stem densities, interspersed with canopy gaps providing opportunities for regeneration of light-requiring species, including black oak, Jeffrey and ponderosa pine.

California Spotted Owl

The California spotted owl and its habitat will be monitored to answer the question, "Are mature, large diameter, high canopy cover stands with densely-shaded understories being maintained in sufficient distribution, quantity and quality to provide habitat for California spotted owl and other interior forest species?" Many wildlife species, including the California spotted owl, specifically require these ecological conditions. A territorial species with large acreage requirements (at least 300 acres of mature forest per pair), the California spotted owl is an indicator of mature conifer forest with a dense, multi-layered canopy (Stephenson and Calcarone 1999). Monitoring the California spotted owl and its habitat will indicate the effectiveness of management activities in achieving maintenance and restoration of this type of montane conifer habitat.

Black Oak

Black oak will be monitored to answer the question, "Is fire or other disturbance occurring too infrequently in mid-elevation conifer stands to allow black oak and other shade-intolerant species to persist over time?" Black oak is a gap-phase species that requires occasional openings in the forest canopy in order to regenerate. Its acorns are also an important food source for many forest animal species (California Department of Fish and Game 2002). Abundance of black oak, especially saplings, will

indicate progress toward reducing forest stand densities and creating regeneration opportunities for light-requiring tree species.

White Fir

White fir was selected as a MIS to answer the question, “Are management activities changing montane conifer forest tree species composition to achieve density and age/size class distributions more similar to pre-suppression conditions?” The abundance of shade-tolerant white fir has increased with the success of fire suppression in montane conifer forests once dominated by black oak, Jeffrey pine and ponderosa pine (Stephenson and Calcarone 1999); thus it acts as an indicator of forest stand densification. Reduced abundance of small-diameter white fir and well-distributed large-diameter white fir in conifer stands will indicate a return to more historic stand conditions and meet the desired condition for this habitat.

Introduction

Federally-listed species are those plant and animal species identified and officially designated by the federal regulatory agencies, U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NOAA Fisheries), who are responsible for managing threatened and endangered species under the Endangered Species Act of 1973, as amended. A threatened species is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and that the appropriate Secretary has designated as a threatened species. An endangered species is any species in danger of extinction throughout all or a significant portion of its range.

Threatened and endangered species are managed under the authority of the Endangered Species Act (ESA) and the National Forest Management Act. The ESA requires federal agencies to ensure that their actions will not be likely to jeopardize the continued existence of any threatened or endangered species or any species proposed for listing, or result in the destruction or adverse modification of critical or proposed critical habitat. Critical habitats are those areas designated as critical, by the Secretary of the Interior or Commerce, for the survival and recovery of listed species.

A Biological Assessment (BA) is prepared by the Forest Service to analyze the effects of proposed projects (or plans) on listed or proposed species and designated or proposed critical habitat and for the purpose of consultation with the FWS and NOAA Fisheries, as required under Section 7 of the Endangered Species Act. Biological assessments are required for programmatic forest plans as described in a Memorandum of Agreement (U.S. Department of Interior 2000b). Species that are proposed for listing but are undergoing scientific review for a final determination are considered, as are any candidate species. Candidate species are those plant and animal species that, in the opinion of the FWS, may become endangered or threatened. Forest plan consultations for the national forests of southern California (Angeles National Forest, Cleveland National Forest, Los Padres National Forest, and San Bernardino National Forest) are coordinated with the Carlsbad and Ventura field offices of the FWS and the Long Beach Office of the NOAA Fisheries.

Forest Plan Decisions Evaluated In the Biological Assessments

The Proposed Action for these consultations was the revised land management plans (forest plans) for the four southern California national forests. The revised forest plans would implement Alternative 4a, the selected alternative, which is described in this FEIS. The revised forest plans contain strategic direction and provide broad program-level direction for managing the land and its resources. They do not make project-level decisions, nor do they contain commitments to implement specific projects. Those decisions are made after more detailed analysis, further public comment, and project-level ESA consultation, as needed.

The revised forest plans contain updated goals and objectives (desired conditions), land use zones, suitable uses, strategies, design criteria (including standards), and monitoring plans for the management of National Forest System lands in southern California. The goals and objectives are designed to be responsive to resource management and use in a conservation-oriented manner. Combined with the monitoring and evaluation measures, these goals and objectives set the priorities and context for plan implementation. Design criteria are sideboards on activities intended to help move toward desired conditions; they are derived in part from existing Best Management Practices, conservation strategies, and habitat needs for threatened and endangered species and other species of concern. Many of the design criteria are directed at mitigating effects associated with national forest management activities on threatened and endangered species and their habitats. These forest plan level decisions constituted the Proposed Action for the making the BA determinations.

Forest Plan Direction for Federally-Listed Species Evaluated In the Biological Assessments

The Forest Service Manual requires that forest plan objectives for federally-listed species must relate to the overall goal of effecting recovery and achieving eventual delisting. Management to achieve species recovery levels is required by law. Management at recovery levels specified in Recovery Plans equates with the National Forest Management Act requirement to maintain viable populations of native and desired nonnative vertebrate species. Forest plan preferred alternatives must meet or exceed recovery objectives.

These objectives were built into the forest plans in Part 1 (Goal 6.2) and Part 2 (Program Emphasis and Objectives, and Program Strategies and Tactics [WL1]).

Three key standards (Part 3) provide for the protection of threatened, endangered, proposed and candidate species in implementation of the forest plans. These standards formed the backbone of the protection measures considered in the BAs and consultation. Additional species-specific standards are included in the Standards section in Part 3 of the forest plans. (Reference to Appendix H in the standard refers to the forest plans, not the FEIS.)

S11: When occupied or suitable habitat for a threatened, endangered, proposed, candidate or sensitive (TEPCS) species is present on an ongoing or proposed project site, consider species guidance documents (see Appendix H) to develop project-specific or activity-specific design criteria. This guidance is intended to provide a range of possible conservation measures that may be selectively applied during site-specific planning to avoid, minimize or mitigate negative long-term effects on threatened, endangered, proposed, candidate or sensitive species and habitat. Involve appropriate resource specialists in the identification of relevant design criteria. Include review of species guidance documents in fire suppression or other emergency actions when and to the extent practicable.

S12: When implementing new projects in areas that provide for threatened, endangered, proposed, and candidate species, use design criteria and conservation practices (see Appendix H) so that discretionary uses and facilities promote the conservation and recovery of these species and their habitats. Accept short-term impacts where long-term effects would provide a net benefit for the species and its habitat where needed to achieve multiple-use objectives.

S24: Mitigate impacts of on-going uses and management activities on threatened, endangered, proposed, and candidate species.

These goals, objectives, strategies and standards were used in making the individual species and critical habitat determinations in the biological assessments.

Federally-Listed Species Evaluation Process

The biological assessment of potential effects of forest plan decisions on threatened, endangered, proposed and candidate species in the planning area included the following components:

1. Identify all threatened, endangered, proposed, and candidate species potentially affected in plan area. These species are listed in tables 361 Federally Listed Plant Species - Endangered, Threatened, Proposed or Candidate (page 11) and table 362 Federally Listed Animal Species - Endangered, Threatened, Proposed or Candidate (page 13).
2. Identify and describe species habitat. This information is contained in the species account prepared for each species of concern (see description of species account preparation process in Appendix B, Species Viability Evaluation Process). Species accounts are found in the Reading Room on the forest plan revision CD or website (www.fs.fed.us/r5/scfpr/read/).
3. Analyze the effects of the proposed action on the species. This analysis is contained in the species accounts as an assessment of the degree of threat to each species from Forest Service activities and, where threats are substantial, projected viability outcomes by forest plan alternative; in the

Environmental Consequences section of Chapter 3 of the FEIS under Effects on Biological Diversity; and were included in the BAs for Alternative 4a.

4. Discuss the cumulative effects resulting from the planned project in relationship to existing conditions and other related projects. This information is also included in the species accounts, in Chapter 3 of the FEIS, and in the BAs for Alternative 4a.
5. Make a determination of "no effect," "may affect, not likely to adversely affect," or "may affect, likely to adversely affect" for the species and document the process and rationale for the determination.
6. References supporting the analysis, which are found in the individual species accounts, the FEIS section Effects on Biological Diversity, the FEIS Appendix K. Bibliography, and the biological assessment.

Consultation

On March 18, 2005, the four southern California national forests requested initiation of consultation on the revised forest plans through the submission of biological assessments (www.fs.fed.us/r5/scfpr/read) and request for consultation, conference and concurrence to FWS (for all four southern California national forests) and to NOAA Fisheries (for the Cleveland and Los Padres National Forests). The biological assessments were developed by Forest Service fish and wildlife biologists and botanists who were most familiar with the revised forest plans and their potential effects on threatened, endangered, proposed and candidate species. There was close, early coordination and informal consultation with FWS and NOAA Fisheries biologists leading up to and during the preparation of the BAs to reach supportable determinations of effect.

Twenty-three animal and 23 plant species classified as threatened, endangered, or candidates were addressed in the BA submitted to FWS. Two species, southern steelhead (two stocks) and Stellar's sea lion, were included in the BA submitted to NOAA Fisheries. Other federally-listed species potentially found in the planning area were determined by FWS to be unlikely to be found on National Forest System lands and thus did not need to be included in formal consultation (documentation in Planning Record).

The BA submitted to FWS concluded with a finding of "may affect, not likely to adversely affect" (NLAA) for five species and their critical habitats where it exists on National Forest System lands. The BA also concluded with a finding of "may affect, likely to adversely affect" (LAA) for 40 listed and one candidate species.

The BA submitted to NOAA Fisheries concluded with a finding of "may affect, not likely to adversely affect" for the Stellar's sea lion and "may affect, likely to adversely affect" for the southern steelhead.

The FWS and NOAA Fisheries will provide a Biological Opinion, Conference Opinion (for proposed species and proposed critical habitat), and letter of concurrence prior to the signing of the Forest Plan Record of Decision. A biological opinion is an official report by the FWS or the NOAA Fisheries issued in response to a Forest Service request for formal consultation or conference. It states their determination about whether an action is likely to result in jeopardy to a species or adverse modification of its critical habitat.

Sensitive Species Evaluation

Sensitive species are those plant and animal species identified by a Forest Service Regional Forester for which population viability is a concern, as evidenced by:

- a. Significant current or predicted downward trends in population numbers or density.
- b. Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution (FSM [Forest Service Manual] 2670.5).

The Forest Service Manual directs the agency to identify and manage sensitive species. According to FSM 2672.21, "sensitive species of native plant and animal species must receive special management emphasis to ensure their viability and to preclude trends toward endangerment that would result in the need for Federal listing. There must be no impacts to sensitive species without an analysis of the significance of adverse effects on the populations, its habitat, and on the viability of the species as a whole."

A biological evaluation is the mechanism by which the Forest Service reviews all planned, funded, executed, or permitted programs and activities for possible effects on sensitive species and documents the findings. This FEIS and the associated species accounts for all sensitive species (see Reading Room on the forest plan revision CD or website (www.fs.fed.us/r5/scfpr/read/) constitute the biological evaluation of sensitive species for the revision of the four southern California national forest plans. A separate letter to the file documents the findings of the biological evaluation.

Forest Plan Direction for Sensitive Species

Forest Service objectives for sensitive species include developing and implementing management strategies and practices to prevent downward trends in populations or habitat capability and ensuring that species do not become threatened or endangered because of Forest Service actions (FSM 2670.22).

These objectives were built into the revised forest plan in Part 1 (Goal 6.2) and Part 2 (Program Emphasis and Objectives, and Program Strategies and Tactics [WL1]).

In addition, Standard S11 was written to provide protection and consideration in all approved uses and activities: "When occupied or suitable habitat for a threatened, endangered, proposed, candidate or sensitive (TEPCS) species is present on an ongoing or proposed project site, consider species guidance documents (see Appendix H) to develop project-specific or activity-specific design criteria. This guidance is intended to provide a range of possible conservation measures that may be selectively applied during site-specific planning to avoid, minimize, or mitigate negative long-term effects on threatened, endangered, proposed, candidate or sensitive species and habitat. Involve appropriate resource specialists in the identification of relevant design criteria. Include review of species guidance documents in fire suppression or other emergency actions when and to the extent practicable." (Reference to Appendix H in the standard refers to forest plan Appendix H, not to an appendix to the FEIS.)

Sensitive Species Evaluation Process

The biological evaluation of potential effects of the revised forest plans on sensitive species in the planning area includes the following components (FSM 2672.42):

1. Identify all sensitive species potentially affected in the project area. These species are listed in table 363: Forest Service Pacific Southwest Region Sensitive Animal Species (page 15) and table 364: Forest Service Pacific Southwest Region Sensitive Plant Species (page 17) (lists were obtained from USDA Forest Service Region 5 website). The American peregrine falcon and San Gabriel Mountains population of Nelson's Bighorn were added sensitive species since the website was updated.

2. Identify and describe species habitat. This information is contained in the species account prepared for each sensitive species (see description of species account preparation process in Appendix B, Species Viability Evaluation Process). Species accounts are found in the Reading Room on the forest plan revision CD or website ([www. fs. fed. us/r5/scfpr/read/](http://www.fs.fed.us/r5/scfpr/read/)).
3. Analyze the effects of the proposed action on the species. This analysis is contained in the species accounts -- as an assessment of the degree of threat to each species from Forest Service activities and, where threats are substantial, projected viability outcomes by forest plan alternative -- and in the Environmental Consequences section of Chapter 3 of the FEIS under Effects on Biological Diversity.
4. Discuss the cumulative effects resulting from the planned project in relationship to existing conditions and other related projects. This information is also included in the species accounts and in the Environmental Consequences section of Chapter 3.
5. Make a determination of no effect, beneficial effect, or "may effect" on the species and document the process and rationale for the determination. These determinations are recorded in a letter to the file for each species.

A "no effect" determination was made for sensitive species that are either not found on National Forest System lands in southern California or have potential habitat, but no known occurrences, in the planning area (threat categories 1 and 2 in the viability assessment process -- see Appendix B, Species Viability Evaluation Process).

A determination of "no effect" or "may affect individuals, but not likely to lead to a trend toward federal listing" was made for sensitive species found on National Forest System lands with no substantial threats from Forest Service activities, depending on their locations and activities that may affect them (threat categories 3 and 4 in the viability assessment process -- see Appendix B, Species Viability Evaluation Process).

The selected alternative (Alternative 4a) also resulted in a determination of "may affect individuals, but not likely to lead to a trend toward federal listing" for species that do face potentially substantial threats from Forest Service activities (threat categories 5 and 6 in the viability assessment process -- see Appendix B, Species Viability Evaluation Process). Land use zone distribution, forest plan objectives and strategies, and forest plan standards all contribute to assuring that no sensitive species would end up worse off under the revised forest plans than under current conditions (see table 368: Viability Outcomes By Alternative For Plant Species-At-Risk, page 69, and table 371: Viability Outcomes by Alternative for Vertebrate Animal Species-At-Risk, page 73).

6. Measures to avoid, minimize, or mitigate effects to sensitive species are found in the revised forest plans, as referenced above; as conservation recommendations in the individual species accounts (in the Reading Room on the forest plan revision CD or website ([www. fs. fed. us/r5/scfpr/read/](http://www.fs.fed.us/r5/scfpr/read/)); and as other types of species guidance documents (see Part 3 of the revised forest plans, Appendix H). Forest plan direction requires that species guidance documents be used as a source for project-specific design criteria when activities or projects have the potential to negatively affect sensitive species.
7. References supporting the analysis are found in the individual species accounts and others are cited in Chapter 3 of the FEIS (listed in Appendix K. Bibliography).

General Direct and Indirect Effects to Plants and Animals

The effects of various national forest activities and uses on plants and animals are discussed below. These effects are not ranked in order of significance and they do not always occur with each activity or use. The degree of impact depends on the timing of when a use or activity occurs, the magnitude or amount of habitat affected by the use or disturbance, the intensity of activity or use, the location in relation to species and habitats, and the duration of the impact. These environmental effects are known to occur at times depending on the specific on-the-ground situation and are described to help explain the relationship of land uses and activities to plants and animals and their habitats. These effects were drawn from the literature and experience of Forest Service biologists, botanists and ecologists working on thousands of projects over the span of many years. The species that are affected by the use or activity are noted in parentheses after the effect using the following key:

A=All Species; B=Birds; F=Fish; H=Amphibians; I=Invertebrates; M=Mammals; R=Reptiles; P=Plants

WATERSHED AND HABITAT IMPROVEMENT

Watershed improvement, wildlife habitat enhancement or restoration, and post-fire Burned Area Emergency Rehabilitation (BAER) activities occur in all kinds of habitats. Activities can include structural and non-structural improvements. They include channel treatments within stream or river channels, hill slope treatments on upland areas, erosion control, controlling or re-routing access, revegetation, etc. Some specific activities include installing bank stabilization structures; building check dams; excavating retention basins; excavating structure placement sites; temporarily diverting stream flow; placing erosion control material such as silt fences, erosion matting, hay bales, straw mulch, broadcast seeding; installing in-ground water tanks (guzzlers); removing vegetation; dropping snags for use as log erosion barriers; cutting and planting willow stems; and removing small dams. Watershed activities sometimes involve cooperative efforts with adjoining landowners.

The following effects may be associated with watershed or habitat improvement projects and may cause loss of individuals or habitat by:

Negative Effects:

- Short-term reductions in water quality due to increased sedimentation during structure building and placement (F, H, I)
- Mortality to downstream eggs, larvae, or fry due to increase in sedimentation during structure building and placement (F, H, I)
- Short-term loss of vegetation (A)
- Introduction of non-native or non-local plant species (A)
- Mortality or injury due to entrapment in erosion cloth material (B, F, H, R)
- Mortality due to trampling, burying, or stranding of individuals (A)
- Short-term displacement by disturbance/noise during project (B, F, H, I, M, R)
- Mortality due to drowning in water-catchments (guzzlers) (B, H, I, M, R)

Positive Effects

- Long-term reduction in sedimentation and erosion (A)
- Increased habitat quality, animal distribution and suitable habitat (A)

PEST MANAGEMENT

Activities associated with pest management may include the use of physical, chemical, mechanical and biological controls. Examples of such activities include: mistletoe removal through pruning (mechanical); application of pesticides (chemical) to control broom, thistle, *Arundo*, tamarisk, bark beetles and vegetation on fuelbreaks; prescribed fire (physical) to control nonnative annual grasses and use of grazing livestock to control pest plants, and mosquito fish release for mosquito larvae control (biological). Post treatment restoration is often a component in pest management programs.

The following effects may be associated with pest management projects and may cause loss of individuals or habitat by:

Negative Effects

- (Short-term) Direct removal/destruction of habitat (A)
- (Short-term) Direct removal/destruction of organisms (A)
- Degradation of habitat via pesticide use (A)
- Competition/predation of non-native species (bio-control) on native species (A)

Positive Effects

- Restoration and/or enhancement of habitat (A)

PRESCRIBED FIRE

Prescribed burns are used as a resource management and fuels management tool to reduce fuel loads and restore habitat on all of the four southern California national forests. Prescribed burn size may vary. Human activities associated with prescribed burning include creating fire lines (the removal of vegetation by chainsaw or dozer to mineral soil) around a project area where no natural barriers exist, brush pile burning, staging areas for crews and equipment, water diversion from stream, lakes or ponds for fire control, smoke from fire, retardant applications to the landscape and burning of vegetation. The effects of fire to natural systems may also be considerable.

The following effects may be associated with prescribed fire projects and may cause loss of individuals or habitat by:

Negative Effects

- Loss of individuals through burning (A)
- Direct removal/loss of habitat (Includes stand reducing fires) (A)
- Degradation or loss of habitat through escaped fire (Includes stand reducing fires) (A)
- Degradation or loss of habitat through excessive fire intensity (soil temperatures, chemistry) (A)
- Erosion caused by alteration of surface hydrology, slope instability and soil loss (A)
- Crushing and trampling of organisms and habitat by foot traffic and driving off-route by fire personnel during project implementation (A)
- Erosion from post-fire cross country vehicle use (motorized and non-motorized), foot traffic and equestrian use in newly opened areas (A)
- Short-term displacement from noise and smoke (B, H, I, M, R)
- Short-term increase in sedimentation from loss of vegetation and retardant use (H, F, I)
- Short-term water quality degradation from use of retardants (F, H, I)
- Short-term loss of vegetation due to retardant use (A)
- Short-term loss of in stream flow from water use (A)

- Nesting and animal behavior disturbance by helicopters and aircraft (B, M)
- Habitat degradation by spread of invasive species (A)

Positive Effects

- Reduced fire size and intensity from wildland fires; lower mortality compared to catastrophic wildland fire event (A)
- Habitat enhancement from early seral stage, creating vegetation mosaics, nutrient cycling and possible increase in forage quantity and quality with change in habitat structure (A)
- Protection of special habitats (bigcone Douglas-fir, riparian, etc.) from wildland fire effects (A)
- Reduced watershed effects from subsequent fires (A)

WILDLAND FIRE

Wildland fires originate from lightning, escaped campfire, escaped burns, accidental vehicular fire and arson. Fire size and intensity varies. Generally to protect natural resources and human life and safety, wildland fire is aggressively controlled whenever possible. Activities associated with fighting wildland fire include creating fire lines (removing vegetation with hand tools, chainsaws or dozers to mineral soil); creating fire breaks and temporary roads (removal of vegetation using a dozer or other heavy equipment to mineral soils); water drops from helicopters and tankers; aerial and ground fire retardant application to the landscape; water diversion for fire fighting (including suction removal) water from streams, lakes and ponds. The effect of fire to natural systems may be considerable.

The following effects may be associated with wildland fire and may cause loss of individuals or habitat by:

Negative Effects

- Direct removal/loss of individuals through burning (A)
- Direct mortality from accidental fire retardant drops in streams (F, H, I)
- Direct removal/loss of habitat (Includes stand reducing fires) (A)
- Degradation or loss of habitat at concentrated staging areas, and through extreme fire intensity (A)
- Degradation or loss of habitat through excessive fire intensity (soil temperatures, chemistry) (A)
- Erosion caused by alteration of surface hydrology, slope instability and soil loss (A)
- Crushing and trampling of organisms and habitat via equipment and foot traffic by fire personnel during fire fighting activities and post-fire public motorized and non-motorized vehicle use (A)
- Accelerated erosion from post-fire public motorized and non-motorized vehicle use (A)
- Short-term displacement from noise and smoke (B, H, I, M, R)
- Short-term increase in sedimentation rates from loss of vegetation causing egg and larvae suffocation (H, F, I)
- Short-term loss of in stream flow from water use during fire fighting activities (A)
- Nesting and behavior disturbance by helicopter (B, M, H, R)
- Habitat degradation by spread of invasive species (A)
- Fragmentation of habitat (short-term) (H, B, R, I)
- Habitat type conversion by increase in fire frequency (A)
- Short-term water quality degradation from use of retardants (F, H, I)
- Short-term loss of vegetation due to retardant use (A)

Positive Effects

- Habitat enhancement from early seral stage, creating vegetation mosaics, nutrient cycling and possible increase in forage quantity and quality with change in habitat structure (A)
- Can provide more natural conditions for fire dependent species (A)

LAND OWNERSHIP ADJUSTMENT

Changes in land holdings routinely take place on the national forests through acquisition, exchange, donation or conveyance, or purchase. An acquisition is a purchase of lands; an exchange involves trading National Forest System acres to another party for acres that are added to the National Forest System. In a land donation, lands are given to the national forests to be added to the National Forest System, sometimes to mitigate adverse effects elsewhere or for other reasons (i.e., tax write-off, or estate planning). In a land conveyance, National Forest System lands are given away. Lands are purchased by the national forests with government funds or donated funds to be added to the National Forest System. Only rarely is land declared surplus and sold. Lands are often acquired to protect species and landscape linkages as well as improve the ease of management for the Forest Service.

The following effects may be associated with land ownership adjustment activities and may cause loss of individuals or habitat by:

Negative Effects

- Land may be difficult to manage affectively along the urban interface without appropriate controls and barriers (A)
- The urban interface or heavily populated in-holdings may be more susceptible to introduction of exotic species and other human impacts such as fire frequency, unauthorized OHV use, and trespass (A)
- Lands acquired are occasionally in need of restoration, which could have a long-term beneficial effect on species, and may have short-term negative effects from resulting restoration work. (i.e., erosion during restoration work, use of herbicides to control invasive nonnative species, or noxious weeds, hazmat cleanup, use of equipment - direct mortality of animals or plants, noise) (A)
- Loss of high quality habitat in the process of acquiring even better habitat (A)
- Loss of habitat in parcels disposed of (Conveyance of land) (A)
- Loss of corridors used for migration and dispersal (Conveyance of land) (A)
- Less ability to manage surrounding National Forest System lands effectively by isolating parts of the national forest from the rest (Conveyance of land) (A)

Positive Effects

- Lands acquired can prevent urban development (A)
- Lands acquired can protect or provide critical landscape linkages and wildlife corridors (A)
- Lands acquired can provide more habitat for viable populations of some species with limited habitat in protected status (A)
- Lands acquired can increase the net habitat for species (A)
- Improved slope stability and reduced soil loss (H, P,F)
- Improved habitat capacity with decreased nonnative species predation and competition (H,F)
- Loss and reintroduction of organisms via revegetation/restoration (P)

TRANSPORTATION CORRIDORS

Transportation corridors are major highways, freeways, and railroads through the national forests. The following effects may be associated with transportation corridors and may cause loss of individuals or habitat:

- Habitat fragmentation and creation of barriers to movement by roads and railroad tracks and associated guardrails, fences, culverts/water control devices (railroads, access roads, highways and freeways) (A)
- Loss of habitat from transportation construction activities: sedimentation, loss of vegetated habitat (mowing and/or clearing) (A)
- Loss/injury due to hazardous material spills from equipment (oil, gas, or chemicals) (A)
- Increased risk of Hazmat spills along transportation corridors, train derailments and truck crashes (A)
- Increased risk of species removal by national forest users via transportation corridors (A)
- Species disturbance and displacement due to noise (B, T, H)
- Crushing by vehicles, equipment, trucks, and trains (A)
- Introduction of invasive nonnative species (revegetation plantings, domestic animal abandonment, exotic weed seeds transferred by motorized/mechanized vehicles) (A)
- Increased risk of wildland fires and associated loss of habitat and individuals (A)
- Air pollution and species health effects (A)
- Trash/garbage which covers plants, ensnares wildlife, results in ingestion, and attracts nuisance species (A)

FACILITIES: BUILDINGS, WATER TANKS, CONSTRUCTION SITES, DISPOSAL SITES

The following effects may be associated with facilities and may cause loss of individuals or habitat:

- Direct mortality or injury from crushing of individuals by heavy equipment used to construct, repair and/or maintain facilities (A)
- Direct mortality as a result of spillage of gas and/or oil into streams within and downstream from occupied habitat (H, F, I, R)
- Short-term displacement of individuals due to noise from facilities maintenance activities (B, F, H, M, R)
- Long-term loss of habitat as a result of facilities maintenance and repair/reconstruction (i.e., check dams and water tanks) (A)
- Disruption of breeding activity as a result of noise associated with facilities maintenance, repair and reconstruction (H, B, M, R)

RECREATION

National Forest recreation activities include activities that visitors undertake in developed and dispersed national forest recreation areas and facilities, excluding permitted events. These types of activities occur often, and may be concentrated into small geographical areas, such as streams, meadows, riparian areas and other sensitive areas. Activities can include: cross-country horseback riding; hiking; off-highway vehicle (OHV) use; rock climbing, snowplay; hunting; fishing; dispersed camping; train watching; non-consumptive wildlife, plant and fish viewing (i.e., bird watching); driving; picnicking and barbecuing; mountain biking; recreational target shooting; berry picking; beach play; and waterplay (covered in the waterplay activities section).

There are effects associated with national forest recreation that should be considered across all landscapes and national forests. Litter generated by visitors attracts generalist native species such as ravens, jays, skunks, raccoons and bears. These species increase in population due to the food available and can affect “species of concern” through competition and predation. Litter also attracts nonnative species such as English sparrows, pigeons, feral cats, and dogs. These nonnative species can also affect “species of concern” through increased predation, displacement, competition for food, space, and water. Litter can directly kill animals by entrapment or ingesting of plastics, metal and glass; kill plants by burying them; and can introduce invasive nonnative weed seeds.

Off-route driving and blazing new trails by car, motorcycle, all-terrain vehicles (ATV), mountain bike, horse or foot also occurs during general national forest recreation activities. New trails are created when national forest users drive off-route for recreation, camping, hiking access, gathering forest products, and become attractive to others for travel. These user created “social” roads and trails often occur in inappropriate areas and are not planned or properly engineered. As a result, these sites suffer from erosion, direct habitat loss, mortality of species individuals, and indirect impacts (vectors for nonnative species, sedimentation). References used include (Anderson 1995, Bowles 1995, Boyle and Samson 1985, Brooks and Lair 2005, Cassels-Brown 2002, Cessford 1995, Chavez 1996, Cole and Landres 1995, Gabrielson and Smith 1995, Gaines and others 2003, Gutzwiller 1995, Knight and Cole 1991, Knight and Cole 1995a, Knight and Cole 1995b, Knight and Gutzwiller 1995, Knight and Temple 1995, Lathrop 2002, Lewis 2001, Miller and others 1997, Stokowski 2000, Sprung 2003, Taylor 2002, Texas Chapter of American Fisheries Society 2002, USDA Forest Service 2001e, 2003f, 2004b, Vandeman 2004, Williams 1998, and Yu-Fai Leung 2000).

The following effects may be associated with national forest recreation:

Cross-Country Horseback Riding and Camping - may cause loss of individuals or habitat by:

- Invasive nonnative plant introduction from horse manure, feed, and soil in hooves (A)
- Soil compaction and erosion (A)
- New trail starts that can damage vegetation and encourage unauthorized use (A)
- Grazing of plants (P)
- Trampling of plants, stream banks and animals (A)
- Disturbance of animals and altering behavior (B, H, M, R)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Erosion and sedimentation on non-designated and un-maintained trails (A)
- Disturbance/death/injury of animals by dogs that may accompany riders (B, H, R, M).

Cross-Country Hiking - may cause loss of individuals or habitat by:

- Invasive nonnative plant introduction from shoes and socks (A)
- Soil compaction and erosion (A)
- New trail starts that can damage vegetation and encourage unauthorized use (A)
- Trampling of plants and animals (A)
- Erosion and sedimentation on non-designated and un-maintained trails (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Disturbance/death/injury of animals by dogs that may accompany hikers (B, H, R, M)
- Disturbance of animals and altering behavior (B, H, M, R)

Cross-Country Mountain Biking - may cause loss of individuals or habitat by:

- Invasive nonnative plant introduction from bicycle and tires (A)
- Loss of habitat by creating new trails (A)
- Soil compaction and erosion from off trail riding (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Trampling of plants and animals (A)
- Disturbance of animals and altering behavior (B, H, M, R)
- Erosion and sedimentation on non-designated and un-maintained trails (A)
- New trail starts that can damage vegetation and encourage unauthorized use (A)
- Disturbance/death/injury of animals by dogs that may accompany bikers (B, H, R, M)
- Changes in hydrological patterns in adjacent habitat where trails are created without proper design (A)

Cross-Country Off Highway Vehicle (OHV) Use

Activities associated with cross-country OHV use include: use of designated and undesignated stream crossings; vehicle use in active stream channels; hill climbing; vehicle use on designated and undesignated trails; creating new trails; track making; picnicking; OHV trials activities; and chasing wildlife.

The following effects may be associated with cross-country OHV use. Cross-country OHV use may cause loss of individuals or habitat by:

- Direct mortality or injury from crushing of individuals by operating OHVs on designated/undesignated roads and trails and open space within occupied habitat (H, I, M, R, B)
- Direct mortality or injury from crushing of individuals by operating OHVs in streams and riparian corridors in occupied habitat (A)
- Direct mortality or injury as a result of spillage of gas and/or oil into streams within and downstream from occupied habitat (H, F, I)
- Direct mortality or injury of eggs and tadpoles as a result of added sedimentation and/or suspension by wave action from OHV use within stream courses or at designated/undesignated crossings (H, F, I)
- Reduced habitat quality due to noise, presence of OHVs and people (B, F, H, M, R)
- Interference with and/or loss of breeding activity (displacement) as a result of noise and presence of OHVs and people (H, F, B,)
- Habitat degradation by spread of invasive nonnative plants in disturbed/denuded areas (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Displacement of animals from preferred habitat to less quality habitat (B, M, H, R)
- Making of user created routes that encourage other unauthorized cross-country use (A)

Snowplay - may cause loss of individuals or habitat by:

- Erosion in areas exposed from excessive use (A)
- Damage to surrounding vegetation (A)
- Snowmobiles may cross streams causing erosion at crossings (B, F, H)
- Possible toxic substance introduction into streams from snowmobiles (F, H)

- Noise and human disturbance that can displace animals (B, M)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)

Hunting - may cause loss of individuals or habitat by:

Negative Effects

- Driving off-route creates unauthorized trails that damage vegetation and encourages more unauthorized use (A)
- Lead shot consumed by animals eating wounded game or gutpiles of dead animals becoming toxic (B, M)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Makes hunted animals wary of humans, roads and trails (B, M)

Positive Effects

- Removal of nonnative pest species (feral pigs) (A)

Fishing - may cause loss of individuals or habitat by:

Negative Effects

- Trampling of riparian vegetation reducing shade, increasing erosion, host plants for food sources (A)
- Collecting of rare fish for bait (F)
- Stocking of nonnative game species (trout, bass, crappie, etc.) that can compete/prey on native aquatic species (F, H, I)
- Travel (driving and walking) through streams causing erosion, disruption of redds and egg masses, direct kill of eggs and young fish, sedimentation (F, H, I)
- Introduction of nonnative bait fish that compete/prey on the native aquatic species (F, H, I)
- Filament fishing lines and lures left behind can trap or injure animals (B, F, H, M, R)
- Lead fishing weights toxic to species if ingested (B, M)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)

Positive Effects

- Control/removal of nonnative fish that compete with native aquatic species (B, F, H, I, R)

Dispersed Camping - may cause loss of individuals or habitat by:

- Making of user created routes to get to campsites (A)
- Off-route driving creating erosion and disturbance to plants and animals (A)
- Camping sites may disturb or destroy habitat (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Keeping wildlife from getting to water sources (B, H, M)
- Invasive nonnative plant introduction (A)

Train Watching - may cause loss of individuals or habitat by:

- Introduction of invasive nonnative plant species (A)
- Ground clearing (A)
- Irrigation to create shade trees (A)

- Driving off-routes and making user created roads (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Trampling of plants and animals (A)
- Disturbance of animals and altering behavior (B, H, M, R)

Non-Consumptive Wildlife, Plant and Fish Viewing - may cause loss of individuals or habitat by:

- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Mortality to individuals by off-route driving (A)
- Harassment of animals, disturbance of habitat (H, B, F, M)
- Trampling of plants and animals (A)
- Driving off routes and making user created roads (A)

Driving - may cause loss of individuals or habitat by:

- Mortality of individuals hit by vehicles, on roadways and off-routes (A)
- Indirect disturbance by vehicles to plants and animals may affect feeding, breeding and resting behaviors (A)
- Short-term displacement from noise disturbance (H, B, F, M)
- Making of new user created roads and trails when vehicles are driven off-route (A)

Picnicking and Barbequing - may cause loss of individuals or habitat by:

- Disturbance or mortality of animals and plants (A)
- Making of new user created routes when driving off-route (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Short-term animal displacement from noise disturbance (B, R, H, M)
- Fires create smoke that can disturb animals, and can cause wildland fires. Wood collection can disturb wildlife and habitat (A)
- Trampling of plants and animals (A)

Dispersed Recreational Target Shooting/Plinking

Open recreational target shooting/plinking areas are located on several national forests where the use can be managed and health and safety can be assured. Sometimes these areas are closed during extreme fire conditions. Sometimes these areas are large portions of the national forest such as areas on the Los Padres and San Jacinto Ranger District of the San Bernardino National Forest and other times they are small designated sites where shooting is concentrated into small geographical areas. Dispersed recreational target shooting/plinking may cause loss of individuals or habitat by:

- Shooting of animals and plants (A)
- Vegetation disturbance and destruction (A)
- Mortality of individuals by off-route driving (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Noise disturbance leading to short-term displacement (B, M)
- Cleared parking/shooting areas contribute to soil erosion and sedimentation (A)
- Disturbance and abandonment of habitat (B, M, H, R)
- Erosion and sedimentation from heavily utilized shooting lanes (A)

- Habitat loss from invasive nonnative plants in disturbed areas (A)
- Trampling of plants and animals (A)
- Increased threat of destructive wildland fires (A)
- Lead shot poisoning with animal consumption (B, M) (Lewis and others 2001)

Berry Picking - may cause loss of individuals or habitat by:

- Direct disturbance of nesting birds (B)
- Vegetation destruction (collateral damage) (A)
- Trampling of plants and animals (A)
- New trails created resulting in erosion and increasing access to sensitive species habitat (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Loss of berries as a food source (B, M)

Rock Climbing - may cause loss of individuals or habitat by:

- Disturbing nesting birds, leading to nest abandonment, territory abandonment, chick mortality (B)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Erosion of shallow soils and trampling of vegetation, animals and burrows (A)

Waterplay

Waterplay activities occur within streams, waterfalls, rivers, lakes and reservoirs. Activities associated with waterplay include: swimming, wading, building large and small rock dams to pool water, chasing and catching fish, frogs, and turtles, sun bathing, boating, water skiing, jet skiing, and stream/lake-side picnicking and camping.

The following effects may be associated with waterplay. Waterplay and associated activities may cause loss of individuals or habitat by:

- Mortality due to trampling and/or crushing of adults, juveniles, metamorphs, and eggs (H, R, F)
- Mortality due to sedimentation and smothering of eggs and larvae (H, F, I)
- Mortality due to intentional capture/poaching (H, F, R)
- Mortality due to increased predation by nonnative species brought to the site (F, H, I, R)
- Reduced reproductive success due to prolonged disturbance during breeding season (H, F, M, B, R)
- Habitat abandonment due to prolonged disturbance (B, F, M, H, R)
- Short and long-term habitat modification by trampling (stream bank erosion from vegetation loss, streambed alteration, intensive use) and reduced cover, forage, nests (A)
- Short and long-term reduction in water quality (H, F, I)
- Short and long-term habitat modification due to the creation of barriers to movement (rock dams) (F)
- Water pollution from manufactured oils (sunscreens and lotions) (H)
- Disturbance/death/injury to species by domestic pets accompanying national forest users (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Increased water temperatures from pooling of water behind dams (F, H, R, I)
- Making of large numbers of user created trails (A)

Campgrounds and Other Developed Recreation Sites

Activities associated with the use, maintenance or construction of campgrounds and other developed recreation sites (i.e., picnic areas, trail heads) includes: initial site construction, clearing of vegetation, grading of sites, asphalt and concrete installation (non-permeable surfaces); site maintenance and cleaning; visitor uses such as camping, campfires, lights, picnicking, fishing, waterplay, photography, playing of radios/music; pets; collecting rocks, plants and animals; releasing exotic species; hiking and biking in and around the developed site.

The following effects may be associated with campgrounds and other developed sites. Campgrounds and other developed sites may cause loss of individuals or habitat by:

- Death of individual organisms and habitat destruction by trampling (A)
- Runoff and erosion due to non-permeable surfaces (asphalt/concrete) and soil compaction (A)
- Habitat abandonment due to noise (B, H, I, M, R)
- Behavioral changes from prolonged periods of night lighting (B, H, I, M, R)
- Loss of vegetative cover in used areas (A)
- Potential destruction of nearby breeding habitat or sites (A)
- Reduced water quality of nearby surface waters through disposal of garbage, dirty diapers, charcoal and other such items in the nearby surface water body (F, H, I)
- Campfires cause smoke that can disturb animals, and can cause wildland fires. Wood collection can disturb wildlife and habitat (A)
- Crushing of plants and animals on and off roadways within the developed sites (A)
- Collection of species of concern as pets, food or for crafts (A)
- Loss or damage to species from use of herbicides and pesticides during site maintenance (A)
- Fragmentation of occupied habitats and interference with seed dispersal, pollinating mechanisms, and movement corridors (A)
- Disturbance/death/injury to species by domestic pets accompanying national forest users (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Creation of user created routes radiating out from the developed site (A)
- Feeding of wildlife causes behavior changes and attracts animals. Can result in having to kill problem animals like bears (B, M,)
- Increased predation on sensitive species by unnatural populations of scavenger species such as ravens and jays (B, M, H, R, I)

RECREATION SPECIAL-USES

Recreation special-uses include a huge variety of recreation activities that are authorized with a special-use permit.

Recreation Residences

Recreation residence tracts generally consist of small privately owned cabins situated on National Forest System lands. They are often situated in or near riparian areas. Use of public land by the cabin owners is authorized by permit for up to 20 years. Cabins are intended for weekend, vacation, or seasonal use only. Activities, other than occupancy, related to the cabin and surrounding lands that can occur include: maintenance of the structures and other improvements, adding additions to the structure, adding additional structures and roadways, landscaping, water diversions and wells, and septic systems. These activities are to be permitted, but sometimes occur without permission.

The following effects may be associated with recreation residences. The same references used for Recreation were used here as well. Recreation residences may cause loss of individuals or habitat by:

Negative Effects

- Losses through trampling adjacent to the sites (A)
- Habitat degradation by planting and spread of non-native/landscape plants (A)
- Disturbance/injury/death from domestic pets/cats and dogs (A)
- Losses of habitat from existence of cabins, maintained yards, parking areas, access roads, especially in riparian areas (A)
- Habitat losses to user created trails (hiking, mountain biking, and OHVs) between cabin and adjacent national forest areas (A)
- Noise disturbance (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Changes in local water table levels, springs, and streams from water diversions or wells for domestic use affecting available surface water and influencing riparian vegetation viability (A)
- Impacts of leach fields, septic tanks, and/or holding tanks on ground water and streams (A)
- Poisoning/death from pesticide use or rodent eradication efforts in/around cabins (A)
- Behavioral changes from prolonged periods of night lighting (B, M, H, R, I)
- Loss of bears and other species due to having to dispose of problem animals that are fed by residents or feed on garbage (M)

Positive Effects

- Cabin owners monitor the area and assist the Forest Service in tract management (A)

Ski Areas

Activities associated with ski areas and ski area management include: clearing vegetation for installation of ski runs; maintenance of cleared slopes (annual brushing, mowing, grubbing; removal of hazard trees); erosion control activities (culverts, culvert maintenance, slope contouring, sediment basin installation/maintenance, water bar maintenance and installation); snow-blowing (including generator operation); grooming of snow-covered slopes (including operation of heavy equipment during the day and at night); snow-making (including development/maintenance of water storage ponds and water diversions); night lighting of slopes; summer use activities (concerts, horseback riding, skateboarding parks, mountain biking events); operation and maintenance of facilities on site (restaurants, ski lift towers/terminals, administrative offices, radio towers, etc.).

The following effects may be associated with ski areas. The species that are effected by ski areas and ski area activities are noted in parentheses below.

Ski areas may cause loss of individuals or habitat by:

- Temporary or long-term abandonment of habitat on/adjacent to ski areas due to high and continuous levels of noise/human disturbance (B, M, R, H)
- Habitat losses in areas type-converted from natural vegetation to cleared ski runs (A)
- Changes to hydrological functions/soil quality from grading, contouring, snowmaking, mountain biking, etc. (A)
- Alterations in the water table at ski areas where their water is supplied by wells or springs (A)
- Reduction in riparian vegetation and surface water availability where water tables have been altered (A)

- Lower water quality in down slope areas due to fertilizers, pesticides, sediment etc. (A)
- Interferences with animal behavior due to night lighting (B, M, I)
- Noise from ski area operations interfering with normal behavioral patterns (B, H, R)
- Night lighting increasing susceptibility of predation (M, B)
- Losses of riparian areas due to culverts/water control devices (A)
- Introduction of invasive nonnative species for landscaping/erosion control (A)
- Disturbance to or loss of vegetation during maintenance (mowing, clearing, etc.) (A)
- Loss/injury due oil, gas, or chemical spills from equipment (A)
- Loss/injury/crushing by maintenance vehicle collision (H, R, M,)
- Crushing of plants and animals by mountain bikes (H, M, R)
- Introduction of invasive nonnative plants from seeds carried on motorized/mechanized vehicles (A)
- Harassment and mortality by pets/domestic animals accompanying visitors to the area (B, M, H, R)
- Fragmentation of habitat or losses of movement corridors (M, B)
- Loss of habitat for forest interior species (A)

Designated Cross-Country Skiing and Snow Play Sites

Designated cross-country ski areas typically consist of blazed trails and roads. The snow is usually groomed with a snow cat grooming machine or equipment dragged behind a snowmobile. Some trimming of vegetation along trails may occur. Activities at the designated snow play sites under permit include: compaction of snow using mechanized equipment; some slope grading and maintenance. Each site has a cleared parking area and maintenance/permittees building facilities.

The types of effects that may be associated with snow-play areas and cross-country ski sites are the same, to a smaller scale, as those listed above for ski areas except for those intensive type of management operations that are related to snowmaking (water diversion), fertilization, or night lighting.

Outfitter-guide Operations

Outfitter-guide activities are authorized by special-use permit and limitation on activities that potentially damage or disrupt sensitive species and habitat areas are generally included as conditions for permit approval. Many outfitter-guides operate on existing trails or National Forest System roads. Activities involved under this category include jeep tours; llama, horse, mule or burro pack trips (day trips or overnight camping); horseback rides (part or full day), guided fishing and hunting trips, snow cat tours, cross-country skiing tours, orienteering, and guided mountain bike tours.

The following effects may be associated with outfitter-guide operations. Outfitter-guide operations and associated activities may cause loss of individuals or habitat by:

Negative Effects

- Human disturbance of animals that affect feeding, breeding and resting behaviors, particularly in riparian areas (A)
- Crushing/mortality of animals, plants and burrow systems (A)
- General disturbance of species due to human activity (B, F, H, I, M)
- Introduction of invasive nonnative plant species by users, vehicles, and pack stock (A)
- Collection of “species of concern” as pets, food or for crafts (A)

- Disturbance/death/injury to species by domestic pets accompanying national forest users (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Feeding on plants by pack stock (P)
- Creation of new trails when riders or hikers leave the trails (A)
- Erosion and sedimentation from concentrated use off of system routes (A)
- Potential disease transmission from pack animals to wildlife (M)

Positive Effects

- Outfitter-guides are subject to more controls than non-outfitter guide activities, so impacts can be more effectively managed.
- Outfitter-guides can provide clients information on proper behavior in wildlands, and help instill environmental ethics.

Motorcycle Trials Events

Almost every year, motorcycle trials events occur on the national forests. These timed trials events require riders to ride their motorcycles over challenging rock outcrops, scoring points for skills such as balance. The events generally use an existing road for the course route, going off the road to access rock outcrops with marked routes, or course "sections". There are generally 20-30 "sections" for testing motorcycle-riding skills.

The events run two to three days involving 20-60 attendees, including spectators. In addition to National Forest System road and trail use, these events require a parking/staging area for camping and vehicles.

The following effects may be associated with motorcycle trials events. Motorcycle trials events and associated activities may cause loss of individuals or habitat by:

- Off-trail driving resulting in bare soil being exposed and cleared of any vegetation (A)
- Mud or dust is generated along roads and trails, which may interfere with vigor, health, and reproductive success of plants (P, I)
- Risk of trampling of animal species/dislodging of plants from being driven over or walked on by spectators and participants (A)
- Unauthorized use of trails created during the event results in erosion, soil exposure and loss of vegetation (A)
- Potential impacts to adjacent habitat from erosion/runoff occurring from compacted, un-vegetated trails (H, F, P)
- Changes in hydrological patterns in adjacent habitat as trails are established (H, F, M, R)
- Reduced reproductive success due to prolonged disturbance during breeding season (H, F,B)
- Habitat abandonment due to prolonged disturbance (B, M, H, R)
- Disturbance/death/injury to species by domestic pets accompanying national forest users (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Introduction of invasive nonnative species brought in on tires/treads/undercarriage of vehicles (A)
- Soil compaction on motorcycle trails and staging areas may prevent/discourage re-establishment of native vegetation (A)
- Temporary or long-term abandonment of habitat adjacent to events site due to noise/human disturbance (A)
- Death/injury from impacts with motorcycles and other vehicles (A)

- Increased sedimentation/siltation at water crossings (H, F, I)
- Unauthorized use of event area, after the event, causes long-term disturbance (A)

Permitted Mountain Biking Race Events

Mountain bike event races are a popular activity and may be held each year at ski areas and on National Forest System trails. Some of the events, such as those held at Snow Summit Ski Resort under Team Big Bear's special-use permit, draw international attendance and are part of international competition to establish professional standing. Team Big Bear sponsors 8-10 race events each year, each with up to 3000 participants and 15,000 spectators. The Team Big Bear events are staged at Snow Summit Ski Resort and then use FS roads and cross-country routes for races. The following effects may be associated with mountain bike events.

Mountain bike race events and associated activities may cause loss of individuals or habitat by:

- Unauthorized, continued use of trails created during the event resulting in erosion, soil exposure and loss of vegetation (A)
- Mud or dust generated may interfere with vigor, health, and reproductive success of plants (P, I)
- Risk of trampling of animal species/dislodging of plants by vehicles, spectators and participants (A)
- Potential impacts to adjacent habitat from erosion/runoff occurring from compacted, de-vegetated trails (H, F, I)
- Changes in hydrological patterns in adjacent habitat where trails are established without proper design (A)
- Introduction of invasive nonnative plant species brought in on tires/treads/undercarriage of bikes and vehicles (A)
- Soil compaction and erosion on trails and staging areas may prevent/discourage re-establishment of native vegetation (A)
- Temporary and/or long-term abandonment of habitat adjacent to events site due to noise/human disturbance (A)
- Death/injury of individuals from impacts with bikes and other vehicles (A)
- Increased sedimentation/siltation at water crossings (H, F, I)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Making of new unauthorized user and spectator created trails (A)
- Making of trails encourages unauthorized use by motorized vehicles after the event (A)

Organization Camps

Organization camps are both under permit on National Forest System lands and on adjacent private lands. Organization camps concentrate use and impacts in a small area, similar to campgrounds. Camps are affiliated with YMCAs, scout groups, churches, colleges/universities, and other large organizations. Some military "Rest and Relaxation" facilities also exist on the national forests. A typical organization camp includes a number of facilities including cabins, platform tents, administrative offices, kitchen/dining building, bathrooms, parking areas, swimming pools, ball fields, buildings for activities (crafts, nature, etc.), stables for horses, a campfire ceremony amphitheater, archery/rifle ranges, tennis courts, hiking trails, horseback trails, mountain biking trails, water play areas. Camp capacities range from 70 to 300. Most operate seasonally, generally in summer. Year-round camps may accommodate conferences and meetings as well as family camping and employ a year-round on-site manager. Outdoor education programs for school groups also use organization camps on the national forests for their programs.

The following effects may be associated with organization camps. The effects associated with trails and developed recreation sites (described above) also apply here. Organization camps and associated activities may cause loss of individuals or habitat by:

Negative Effects

- Direct removal of vegetation during maintenance/construction activities (A)
- Habitat losses through invasion/introduction of nonnative plant species (A)
- Losses of individuals through landscaping and mowing (A)
- Losses of habitat due to escaped campfires (A)
- Habitat losses and noise disturbance as hiking, mountain biking, and horse trails develop (A)
- Soil compaction limiting re-establishment opportunities for native vegetation (A)
- Habitat fragmentation due to structures, clearings, roads, and trails (A)
- Loss of habitat/vegetation due to construction and use of ball fields, corrals, campfire ceremony sites, group activity sites (A)
- Alterations in the water tables at camps where their water is supplied by wells, springs, or diversions (A)
- Reduction in riparian vegetation and surface water availability where water tables have been altered (A)
- Mud or dust generated along roads and trails may interfere with vigor, health, and reproductive success of plants (P, I)
- Risk of trampling of animal species/dislodging of plants by vehicles foot traffic (A)
- Potential impacts to adjacent habitat from erosion/runoff occurring from compacted, un-vegetated areas (H, F, P, I)
- Changes in hydrological patterns on adjacent habitat where clearings are established without proper design (H, F, I)
- Soil compaction on trails and staging areas may prevent/discourage re-establishment of native vegetation (A)
- Temporary or long-term abandonment of habitat on/adjacent to camps due to high and continuous levels of noise/human disturbance (B, F, H, R, M)
- Death/injury from impacts with bikes and other vehicles (A)
- Increased sedimentation/siltation at trail/road and water crossings (H, F, I)
- Losses of individuals collected for “nature program” studies and personal collecting (A)
- Harassment by pets/domestic animals accompanying residents/visitors of the camps (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Night lighting interfering with animal behavior (B, M, H, R, I)
- Introduction of invasive nonnative species for landscaping/erosion control (A)
- Fragmentation of habitat or losses of movement corridors (M, B, F, H, R)

Positive Effects

- Organization camps offer an opportunity to provide outdoor education and develop an appreciation of nature in large numbers of people that might never receive such experience (A)

Large Group Gatherings

A variety of large group gatherings are staged on National Forest System lands, including Mountain Men Rendez-Vous, Black Powder Gun Club Shooting Contests, historical re-enactments, Sheriff's Rendez-Vous and weddings.

These gatherings are usually one-time events with up to several hundred people. Activities vary depending on the type of gathering. They typically involve staging/camping for up to several hundred people and include parking and campfire permits for several large communal campfires. The groups are required to provide porta-potties for sewage disposal.

Some groups have organized contests/activities such as target shooting (rifle, muskets, archery, etc.). The participants camp at designated or dispersed random sites depending on the type of event. As these events are under special-use permit, each event is evaluated for potential impacts, and sensitive habitat areas are avoided as a condition of permit approval. The following effects may be associated with permitted large group gatherings. Large group gathering activities may cause loss of individuals or habitat by:

- Introduction of invasive nonnative weeds from seeds carried on motorized/mechanized vehicles (A)
- Losses of habitat due to escaped campfires (A)
- Mud or dust is generated along roads and trails: it may interfere with vigor, health, and reproductive success of plants (P, I)
- Risk of trampling of animal species/dislodging of plants from being driven over or walked on (A)
- Potential impacts to adjacent habitat from erosion/runoff occurring from compacted, de-vegetated areas (A)
- Soil compaction on trails and staging areas may prevent/discourage re-establishment of native vegetation (A)
- Temporary or long-term abandonment of habitat on/adjacent gathering sites due to high levels of noise/human disturbance (A)
- Death/injury from impacts with mechanized and motorized vehicles (A)
- Harassment/mortality by pets/domestic animals accompanying gathering participants (A)
- Short-term disturbance from helicopter wash and noise (B, M)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)

Marinas and Boat Launches

Marinas under permit on National Forest System lands typically consist of parking areas, a boat ramp into the water, and bathroom facilities. Maintenance activities include periodic reinforcement of boat ramps and/or shoreline erosion control riprap/jetties. Some of the sites have landscaping. Parking lots are periodically resurfaced. Some of the facilities are seasonal (higher elevation sites operate May to December), while others are year-round. Some of the facilities include fishing piers and picnicking areas.

The following effects may be associated with Marinas, Boat Launches. Marinas and boat launch activities may cause loss of individuals or habitat by:

- Introduction of invasive nonnative plants from seeds carried on motorized/mechanized vehicles (A)
- Habitat losses through invasion/introduction of nonnative pest species. These species are generally nonnative and may be invasive, out-competing native species and altering natural communities. (A)

- Loss of habitat due to clearings for parking and facilities (A)
- Risk of trampling of animal species/dislodging of plants from being driven over or walked on (A)
- Potential impacts to adjacent habitat from erosion/runoff occurring from compacted, de-vegetated areas (H, F)
- Soil compaction in/around developed site may prevent/discourage re-establishment of native vegetation (A)
- Temporary or long-term abandonment of habitat on/adjacent developed site due to high and continuous levels of noise/human disturbance (A)
- Death/injury from impacts with mechanized and motorized vehicles (A)
- Losses of individuals collected by visitors (A)
- Harassment/mortality by pets/domestic animals accompanying visitors (A)
- Lowered water quality in adjacent water areas due to higher sedimentation levels from on-site erosion (H, F)
- Introduction of invasive nonnative species for landscaping/erosion control (A)
- Disturbance to or loss of vegetation during maintenance (mowing, clearing, etc.) (A)
- Loss/injury due to oil, gas, or chemical spills from equipment (A)
- Loss/injury/crushing by maintenance vehicles (A)
- Fragmentation of habitat or losses of movement corridors (A)
- Changes to hydrological functions/soil quality from grading, contouring, etc. (A)
- Shoreline erosion (and loss of adjacent vegetation/habitat) from wave action generated by boats and associated lake bottom dredging (A)
- Lowered water quality around boat ramp from boat fuel and oil (F, H, I)
- Disturbance from high levels of noise from boat motors (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)

Target Shooting Ranges

Shooting ranges on National Forest System land are generally operated under special-use permit. Special-use permit areas typically have cleared areas (some are old borrow pits) that are flat with a sloping backdrop. Some have shaded facilities from where shooting is done. Others have small “improvements” like concrete supports for targets. Each shooting range has an access road and cleared parking area. Some shooting ranges are operated as clubs with access to club members and the general public. Operating seasons vary from year-round to summers only. Some of the shooting ranges are open only on weekends while others are open seven days/week. Activities include general maintenance of facilities and parking area, vegetation clearing for fire hazard reduction, cleanup of target and ammunition materials, shooting of various caliber weapons, and gatherings for shooting competitions.

Target shooting results in a "zone of influence" in which, compared to similar areas where shooting does not occur, there are: 1) fewer individual animals; 2) a decreased diversity of species; 3) a lower density of animals; 4) decreased nesting and denning activity; and, 5) lower biomass.

There is evidence that lead contamination of ground and surface water is rarely a problem in outdoor shooting ranges since the chemical process by which lead enters the ground water is not operable where the lead fragments are exposed to air. These fragments form an oxidized outer layer, which prevents leaching of lead into the ground water. Except in cases where the lead is present in finely powdered form, under extremely alkaline soil conditions, lead will not leach into the ground water (P. Brierty, San

Bernardino County Environmental Health Department in a December 1988 telecom with G. Earney, USDA Forest Service and EPA testing at Lytle Creek shooting area).

The following effects may be associated with target shooting ranges. Target shooting range activities may cause loss of individuals or habitat by:

Negative Effects

- Loss of soil due to a lack of vegetative cover (A)
- Accumulation of lead, copper and other materials in the soil (A)
- Injury or death to a low number of animals, mostly birds and small terrestrial species, that stray into the site when it is in operation (B, M)
- Temporary or long-term abandonment of habitat on/adjacent gathering sites due to high levels of noise/human disturbance (A)
- Habitat losses through invasion/introduction of non-native plant species that out-compete native plants and alter natural vegetation communities (A)
- Loss of habitat due to clearings for parking, target range, and facilities (A)
- Risk of trampling of animal species/dislodging of plants from being driven over or walked on (A)
- Potential impacts to adjacent habitat from erosion/runoff occurring from compacted, de-vegetated areas (H, F)
- Soil compaction in/around developed site may prevent/discourage re-establishment of native vegetation (A)
- Temporary or long-term abandonment of habitat on/adjacent developed site due to high and continuous levels of noise/human disturbance (A)
- Death/injury from impacts with mechanized and motorized vehicles (A)
- Harassment/mortality by pets/domestic animals accompanying visitors (A)
- Lowered water quality in adjacent water areas due to higher sedimentation levels from on-site erosion (H, F)
- Introduction of invasive nonnative species for landscaping/erosion control (A)
- Introduction of invasive nonnative weeds from seeds carried on motorized/mechanized vehicles (A)
- Disturbance to or loss of vegetation during maintenance (mowing, vegetation trimming, clearing, etc.) (A)
- Increased risk of habitat loss due to escaped fires triggered by shooting (A)
- Loss/injury due to oil, gas, or chemical spills from equipment (A)
- Loss/injury/crushing by maintenance vehicles (A)
- Loss/injury from ingestion of/entanglement with target/ammunition materials or trash. (A)
- Fragmentation of habitat or losses of movement corridors (A)
- Changes to hydrological functions/soil quality from grading, contouring, etc. (A)
- Lead poisoning with animal consumption (B,M) (Lewis and others 2001)

Positive Effects

- Reduces widespread effects by giving people a safe place to go to shoot where this use can be managed (A)
- Concentrates users where shooting can be controlled and more easily cleaned and managed (A)

EFFECTS OF CHRONIC ILLEGAL/UNAUTHORIZED ACTIVITIES

Some chronic illegal or unauthorized activities occur in association with general national forest recreation activities. These illegal/unauthorized activities include: marijuana gardens, paintball shooting and plinking in closed areas, unauthorized vehicle use, drug labs, campfires in unauthorized areas, rave parties, graffiti, wood theft, domestic animal abandonment; illegal fireworks, trash dumping and unpermitted collecting of rocks, fossils, plants, animals, and insects.

The following effects may be associated with illegal and unauthorized activities and may cause loss of individuals or habitat by:

- Erosion from illegal structures and roads associated with drug operations and clean up activities (A)
- Hazardous materials spills (drug labs and graffiti) (A)
- Water diversion for irrigation (Marijuana plantations) (A)
- Increased predation and competition from dumping feral domestic animals (B, H, M, R)
- Litter and netting (nuisance species/ingestion of plastic/animal entrapment) (A)
- Dumping (this can include dumped vehicles, furniture and household appliances) (A)
- Fire starts/wildland fires, and associated destruction of habitat, plants and animals (A)
- Habitat modification or destruction (A)
- Harassment of animals, noise disturbance (B, M, H, R)
- Trampling and soil compaction (A)
- Creation of roads and trails with long-term impacts (A)
- Loss of individuals and populations from collection of plants and animals (A)
- Poisoning of animals in marijuana plantations (B, M)

LAW ENFORCEMENT ACTIVITIES

Law Enforcement activities can occur throughout National Forest System lands and all times of the day. Activities associated with law enforcement include low-level flights by helicopters, securing and dismantling methamphetamine labs, removal of marijuana plantations, trailblazing, excavation of investigation sites, search and rescue operations, removal of dumped vehicles, household trash and hazardous material cleanup.

The following effects may be associated with law enforcement activities and may cause loss of individuals or habitat:

Negative Effects

- Disturbance to nesting or roosting birds from low-flying helicopters and aircraft (B)
- Abandonment of habitat during prolonged disturbance (H, M, B, I, R)
- Harassment of animals during dog training (B, M, H, R)
- Trampling or loss of vegetation (A)
- At stream crossings, mortality of eggs, larvae or individuals from crushing, covering or dislodging into the stream flow eggs or larvae (H, F, I)
- Destruction of burrows or plants during enforcement activity or excavation (M, H, P, I, R)
- Introduction of toxic materials from drug labs during drug manufacturing, raids or lab clean-ups (A)
- Increased sedimentation from trails and roads blazed or soils exposed during activities (A)

- Crushing and trampling of organisms and habitat via off road vehicular use and foot traffic while carrying out enforcement activity (A)
- Erosion from unrestricted vehicle use (motorized and non-motorized) and foot traffic, and/or equestrian use (A)
- Short term displacement of animals and birds from noise (B, I, M)
- Behavioral changes from periods of night lighting (A)

Positive Effects

- Reducing illegal/unauthorized activities and all the associated effects (A)
- Halting illegal use of herbicides and pesticides associated with marijuana growing (A)
- Removal of invasive nonnative plants (A)
- Removing illegal water divisions (A)
- Reducing destructive wildland fires (A)

MILITARY EXERCISES/SEARCH AND RESCUE EXERCISES

Military exercises and Search and Rescue Exercises activities can occur throughout National Forest System lands and all times of the day. Activities associated with these uses include low-level flights by helicopters, trailblazing, off-route driving, rock climbing, the use of explosives and flares and heavy foot traffic. National Forests near areas with military training camps and troop populations are likely to receive multiple requests to use National Forest System lands as training sites.

The following effects may be associated with military exercises and Search and Rescue Exercises. Military exercises/search and rescue exercises may cause loss of individuals or habitat by:

- Death/injury from impacts with mechanized and motorized vehicles and weapons (A)
- Disturbance to nesting or roosting birds from low-flying helicopters and aircraft (B)
- Rock climbing may disturb nesting birds, leading to nest abandonment, territory abandonment, chick mortality (B)
- Habitat abandonment due to noise (B, H, I, M, R)
- Litter (attracts nuisance species/ingestion of plastic/animal entrapment) (A)
- Night lighting interfering with behavior (A)
- Human disturbance to animals that affects feeding, breeding and resting behaviors, particularly in riparian areas (A)
- Trampling of plants and animals (A)

NON-MOTORIZED TRAILS

The use, maintenance and construction of non-motorized trails may include some of the following activities. Trail use may include: hiking, running, equestrian and mountain bicycle travel, fishing, hunting, wildlife viewing, photography, picnicking, presence of domestic pets/dogs. Unauthorized motor vehicles occasionally use non-motorized trails. New user created trails often occur in conjunction with system trails cutting corners or leading to unique features (rocks, meadows, streams etc.). Trail construction may include: cutting of vegetation to clear trail tread; soil movement during construction, installation of crib walls and like structures to stabilize trail, construction of trailhead parking areas including grading, installation of surface materials (gravel, asphalt or concrete), dredging and filling of wetland and/or riparian habitats for stream crossings, construction of bridges or other crossing structures, installation of signs, trailhead markers and registration points; movement features for wildlife species such as bears and mountain lions (culverts/bridges). Trail maintenance may include: building water dips and rehabilitative activities that require soil movement, repeated pruning of vegetation along trails to provide proper

clearance for use; possible use of herbicides to combat invasive plant species; maintenance of signs and trailhead markers and registration points. Well designed and maintained trails can reduce the impacts of cross-country riding, hiking and horseback use. References used include (Boyle and Samson 1985, Cassels-Brown 2002, Cessford 1995, Chavez 1996, Gaines and others 2003, Knight and Cole 1991, Knight and Gutzwiller 1995, Lathrop 2002, Sprung 2003, Vandeman 2004, Yu-Fai Leung 2000).

The following effects may be associated with non-motorized trails. Trail related activities may cause loss of individuals or habitat by:

Negative Effects

- Human disturbance to animals that affect feeding, breeding and resting behaviors, particularly in riparian areas (B, F, H, I, M)
- Crushing/mortality of animals, plants and burrow systems (H, I, M,R)
- Increased runoff and resultant sediment affecting water quality (F, H, I)
- Death/injury of individuals or habitat damage by herbicides applied during maintenance (A)
- General disturbance of species due to human activity (B, F, H, I, M)
- Providing access for legal and illegal shooting, fishing and hunting purposes (B, M, F)
- Loss of vegetative cover (A)
- Compaction of soils in trail tread and loss of habitat (A)
- Erosion, increased runoff and resultant sediment affecting water quality (F, H, I)
- Introduction of invasive nonnative plant species by users and pack stock (A)
- Trails provides access to illegal OHV travel into sensitive habitat areas (A)
- Collection of “species of concern” as pets, food or for crafts (A)
- Shooting of species and habitats (A)
- Disturbance/death/injury to species by domestic pets accompanying national forest users (B, M, H, R)
- User created trails from off-trail travel originating from system trails (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)

Positive Effects

- Well designed and maintained trails can reduce many of the impacts associated with cross-country hiking, biking and horseback use.

MOTORIZED ROADS AND TRAILS

Activities associated with the use, maintenance and construction of roads and motorized trails include: vehicular travel (personal, commercial and heavy construction vehicles); fuel and/or other toxic substance spills; hauling of materials; presence of people and domestic pets, road maintenance activities (grading of road surfaces, installation of road surfaces - gravel, asphalt, cement); clearing of snow or debris following storm events; filling of washouts and potholes, brush removal, mowing, culvert cleaning) and motorized events for groups.

The level of intensity of impacts typically increases significantly at stream crossings for the aquatic species due to the concentrated occupancy of the species and effects at these locations. References used include (Bancroft 1990, Brooks and Lair 2005, Forman and Alexander 1998, Gucinsky and others 2001, Knight and Gutzwiller 1995, Livezey 1991, Perry and Overly 1976, Ripple and Beschta 2004, Rost and Bailey 1979, Sage and others 1983, Spellerberg 1998, Stokowski and others 2000, Thomas 1979, Taylor

2002, Texas Chapter of American Fisheries Society 2002, USDA Forest Service 2001e, 2003f, 2004b, Watson 2005).

The following effects may be associated with roads and motorized trails. Roads and motorized trail activities may cause loss of individuals or habitat by:

Negative Effects

- Crushing and mortality of animals, plants and burrow systems (A)
- Creation of sediment affecting water quality (F, H, I, R)
- Creation of dust and mud which coats nearby species and habitat (A)
- Pollution of water from introduction of toxic substances (F, H, I)
- Generation of noise (day and night) and animal disturbance (A)
- Intermittent night lighting which affects animal behavior (B, M, H, R)
- Providing access for legal and illegal shooting, hunting, and fishing (A)
- Provide access for unauthorized off-route travel off of the road surface and creation of new user created routes (A)
- Loss of vegetative cover (A)
- Introduction of invasive nonnative species brought in on tires/treads/undercarriage of vehicles (A)
- Use of herbicides for weed and grass control (A)
- Blockage or interruptions of fish and wildlife movement corridors for feeding, breeding and dispersal (F, H, R, I, M)
- General disturbance of species through presence of vehicles and human use (B, F, H, I, R)
- Erosion due to concentration of water along roads (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)

Positive Effects

- Well designed located and maintained roads can reduce many of the effects of cross-country driving (A)

NON-RECREATION SPECIAL-USES

Activities associated with non-recreation special-uses include: Permitted (non-hydropower) surface water extraction, spring developments, water conveyance structures (pipelines, tunnels, ditch lines, and flumes) including construction, installation and maintenance; groundwater extraction: (domestic use, wells, pump-houses, water conveyance structures and the associated water losses), transportation (corridors for railroads, access roads, highway and freeway construction, reconstruction and road management), power and utility corridors (towers, lines, clearings, oil and gas pipe lines, cable lines, water lines, power lines, sewer lines; communication tower structures); others - e.g. sediment placement sites, apiaries, ground based weather modification devices, gauging stations; filming permits, and flood control activities (channelization; berm maintenance; storm damage repair.

The following general effects may be associated with non-recreation special-uses. Non-recreation special-use activities may cause loss of individuals or habitat by:

- Alterations of natural water flows by re-directing flows to protect man-made improvements (A)
- Loss or degradation of habitat from construction and maintenance activities (A)
- Sedimentation potential to aquatic areas when sites are located adjacent to water courses and riparian areas (F, H, I)

- Interference with species behavior from noise and human presence (B, M, H)
- Increased risk of Hazmat spills into imperiled species habitat from equipment and/or site (A)
- Trampling and crushing during construction, maintenance and equipment staging (A)
- Temporary habitat abandonment due to noise and disturbance (B, M, H, R)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Introduction of nonnative invasive plants from seeds carried on motorized/mechanized vehicles (A)

In addition to the general effects, some special-use activities may have specific impacts:

Surface Water Extraction - may cause loss of individuals or habitat by:

- Loss of habitat from change in water quantity (dewatering; reduction in instream flows - change in flow timing, magnitude, and duration) (A)
- Reduced flooding allows formerly flood-suppressed plants (often nonnative) to flourish (F, H, I)
- Lowered water quality (water temperature changes, sedimentation, chemical spills from facilities or support vehicles) (F, H, I)
- Lowered surface and groundwater quality at, adjacent, and downstream to the extraction point (A)
- Drying of natural streams and springs (A)
- Decrease or loss of riparian vegetation (A)
- Fragmentation of habitat or losses of movement corridors, genetic isolation (A)

Groundwater Extraction - may cause loss of individuals or habitat by:

- Drying of natural streams and springs (A)
- Lowered surface and groundwater quantity at, adjacent, and downstream to the extraction point (A)
- Lowered surface and groundwater quality at, adjacent, and downstream to the extraction point (A)
- Decrease or loss of nearby riparian vegetation from lowered water table (A)
- Interference with/loss of connectivity between habitats/genetic isolation (A)
- Interference with/loss of connectivity between upstream and downstream habitat because of location of ditch lines and other conduits/genetic isolation (F, H, M, I)
- Indirect/un-intended net loss of ground water through tunnel leaks associated with drilling of tunnels (tunnels associated with transport of California Water Project water)(A)
- Decline or loss of nearby riparian vegetation from construction activities (A)
- Loss of unique plants and animals at surface expressions of groundwater (A)

Communication Towers - may cause loss of individuals or habitat by:

- Loss or degradation of habitat from construction, reconstruction and maintenance of site (A)
- Erosion and associated down slope sedimentation (F, H,)
- Death or injury from collisions (B, M)
- Potential death or injury from signal output (B, M)

Power Lines and Utility Corridors - may cause loss of individuals or habitat by:

- Loss of habitat due to construction, reconstruction and maintenance of poles (A)
- Interference with/loss of connectivity (fragmentation) between habitats from power line and utility corridors (H, M, R)
- Loss of foraging, nesting and cover habitat from herbicide applications and/or vegetation clearing in corridors (A)
- Death or injury from collisions and electrocutions (B, M)
- Increased risk of wildland fires and loss of habitat and individuals (A)
- Loss/injury due to oil, gas, or chemical spills (including pesticides) (A)
- Habitat loss associated with access roads (A)
- Provides corridors for invasive nonnative species introduction and spread (A)
- Provides access for creation of off-route vehicle use and new user created roads (A)

INTRODUCTIONS OF NONNATIVE SPECIES OF PLANTS, FISH, OR WILDLIFE

The following general effects may be associated with introductions of nonnative species of plants, fish, or wildlife. Introductions of invasive nonnative species may cause loss of individuals or habitat by:

- Competition with/predation on native species (A)
- Hybridization/loss of genetic purity with imperiled native species (F)
- Introduction of disease from other regions (A)
- Destruction of vegetation by introduced biocontrol species (P, I)
- Reduced forage for livestock and wildlife

LIVESTOCK GRAZING

Activities associated with livestock grazing include livestock feeding/living in habitat, transport of livestock by vehicle/trailer, construction and maintenance water systems and feeding/salt sites, installation and maintenance of fences and cattle guards, construction, use and maintenance of corrals and loading chutes, development of trails and stream crossings for livestock movement, use of horses in management of the allotment, construction and maintenance of earthen ponds, use of hay and other supplemental foods, and the use of fertilizers and supplemental watering for pastures.

Grazing activities may cause loss of individuals or habitat by:

Negative Effects

- Degradation of soil crusts (R, I, M, P)
- Direct trampling of listed plants or animals (A)
- Trampling of stream banks and stream bed habitat including burrow systems (A)
- Denuding of vegetation from areas of concentrated use (A)
- Creation of potential aquatic breeding habitat for listed and nonnative species (H, F, I)
- Spread of invasive nonnative seeds, spores and larval life stages (P, I)
- Smothering of egg masses and larval life stages from added sedimentation (H, F, I)
- Coating of algae and other aquatic plants from increased sedimentation and high nutrients from manure (H, F, I)
- Direct removal of plants due to grazing or browsing activities (A)

- Introduction of invasive nonnative species from hooves, hides or manure or by soil disturbance (A)
- Competition with other native herbivores for forage species (M)
- Removal of hiding and nesting cover for wildlife species (B, H, I, M, R)
- Water temperature increase and stream widening from loss of vegetative stream or over story vegetation (F, H, I,)
- Reduction in oxygen content of water due to eutrophication from deposition of feces (F, H, I)
- Soil compaction (B, R, H, P, M, I)
- Water competition with native species (A)
- Hydrological changes from trails and vegetation removal (A)
- Litter (nuisance species/ingestion of plastic/animal entrapment) (A)
- Introduction of invasive nonnative plants from seeds carried on motorized/mechanized vehicles (A)
- Creation of wildlife barriers and hazards from fencing (M)

Positive Effects

- Rejuvenation of mature shrubs when grazed properly (A)
- Increased water temperatures and growth of algal mats which may enhance growth and development of larval stages of some aquatic animal species (F, H, I)
- Maintenance of habitat for early seral stage species (A)
- Prevention or reduction of woody species encroachment into open habitat (B, I, M)
- Reduced fuel loading in some situations(A)
- Fence posts can create perching structures for birds in grasslands (B)

MINING ACTIVITY

Mining activities on National Forest System lands varies widely, from small-scale recreational prospecting, to massive commercial pit mining, to oil and gas wells. Activities associated with mining include: claims assessment work, exploration, initial removal of habitat in advance of mining; excavation of quarries (drilling, blasting, and digging), production of waste piles and overburden, roads (construction, expansion, realignment, use, and maintenance), well development and maintenance, reclamation activities (re-contouring slopes, erosion control, revegetation) storage and processing facility development, use, and maintenance. If a claim is patented, the land becomes private and is no longer under National Forest management and jurisdiction.

Non-locatable mineral removal such as sand, gravel and rock takes place on the national forests or immediately adjacent to the national forests.

The following effects may be associated with mining activities. Mining activities may cause loss of individuals or habitat by:

- Loss/destruction of habitat (removal or burying) (A)
- Burying organisms under waste material (A)
- Increased risk of hazardous materials spills into habitat from mechanized equipment (A)
- Degradation of water quality from equipment in and around water, destruction of riparian and non-riparian vegetation while removing rocks and minerals (A)
- Destruction or degradation of habitat via spills/leakage of oil and other hazardous materials (A)

- Fragmentation of habitat due to roads, pits, excavation and dumping (A)
- Alteration of surface hydrology (A)
- Alteration of subsurface/groundwater hydrology (A)
- Reduced slope stability and accelerated soil loss (A)
- Crushing and trampling of organisms from equipment and personnel (A)
- Introduction of invasive nonnative weeds from seeds carried on motorized/mechanized vehicles (A)
- Increased sedimentation at site and downstream causing egg and larvae suffocation, and decreased oxygen, increased water temperatures and filling of pools (F, H)
- Chronic deposition of dust on habitat (I)
- Transfer of lands supporting organisms and habitat from National Forest System, into private ownership when claims are patented (A)
- Loss and reintroduction of plants via reclamation and revegetation efforts (P)
- Increased unauthorized public vehicular use of habitat accessed by mining roads, including recreational OHV use, un-permitted wood-cutting, etc. (A)
- Accelerated fire cycle as a result of invasive species fuel loading, mining-related starts, and un-permitted wood-cutting starts, etc. (A)

MECHANICAL FUELS REDUCTION, TIMBER/FUELWOOD/FOREST PRODUCT HARVESTING

Mechanical treatment of fuels involves the same activities as described below for commercial timber harvest activity as well as thinning small diameter trees and shrubs, chipping woody plants on site, masticating (large blades or rollers) or crushing small diameter trees and brush, and piling slash for later burning.

Commercial timber harvesting is normally conducted on a small scale on southern California national forests. The recent mortality in the San Gabriel, San Bernardino, San Jacinto, Palomar and Laguna Mountains have resulted in greatly increased removal of salvage material for fuels reduction around communities. Most often, commercial sales are associated with salvage operations, removing trees killed by fire, disease, or drought. For firewood, downed trees are usually limbed, cut to length, and loaded directly into trucks. Saw logs are skidded by dozer or tractor to the landing where they are loaded onto trucks. Temporary roads may be constructed to access the logging areas.

In addition to providing wood for commercial fuel wood sales, the national forests have a personal use fuel wood program. The general public may purchase permits for cutting a small amount of wood from downed logs or marked standing dead trees. Cutting/removing wood is permitted seasonally when soils are relatively dry and activities are less likely to cause resource damage.

While the impact of accessing fuel wood is generally confined to about a 100 foot distance from roads, the impact area may vary with topography and vegetative cover: open flat areas provide easier access to fuel wood and suffer higher levels of impacts. However, unauthorized roads/trails are established when as people drive cross-country to access fuel wood.

The national forests also allow some level of harvesting of various special forest products such as branches of various shrubs, cone collections, deer grass, pinecones, mistletoe, and the harvesting of bracken ferns fiddleheads. Permits are also occasionally issued for seed collecting to commercial native-plant propagators. Permittees are allowed to collect common species. Permit provisions and collection location guidelines limit collecting in vulnerable habitats in addition to prohibiting collection of rare species.

The following effects may be associated with mechanical fuels treatment, timber harvesting, fuelwood gathering, and forest products gathering.

Mechanical fuels treatment, timber harvesting, fuel wood gathering, and forest products gathering activities may cause loss of individuals or habitat by:

Negative Effects

- Crushing and trampling of organisms and habitat via off-route equipment, vehicular and foot travel (A)
- Fire caused by woodcutting activities (A)
- Litter (attracts nuisance species/ingestion of plastic/animal entrapment) (A)
- Introduction of invasive nonnative weeds from seeds carried on motorized/mechanized vehicles (A)
- Loss of habitat due to clearings for parking and equipment storage (A)
- Mud or dust is generated in project area: it may interfere with vigor, health, and reproductive success of plants (I)
- Potential impacts to adjacent habitat from erosion/runoff occurring from compacted, devegetated areas (A)
- Soil compaction in/around project site may prevent/discourage re-establishment of native vegetation (A)
- Temporary or long-term abandonment of habitat on/adjacent developed site due to high and continuous levels of noise/human disturbance (B, M, H, R, I)
- Losses of individuals (plants and animals) collected by visitors (A)
- Harassment/mortality by pets/domestic animals accompanying permittees (A)
- Lowered water quality in adjacent water areas due to higher sedimentation levels from on-site erosion (H, F, I)
- Loss/injury due to oil, gas, or chemical spills from equipment (A)
- Fragmentation of habitat or losses of movement corridors (A)
- Disturbance to nest sites and cover during treatment or harvesting of forest products (branches, stems, grass, seeds) (B, M)
- Loss of host plants or larvae disturbance during treatment or forest products harvesting (P, I)
- Impacts to water quality where forest products are gathered in riparian habitat (A)
- Creation of unauthorized roads and trails (A)
- Lack of seed storage in soil if seed is overcollected by seed harvestors (P)
- Potential for disease transfer from plant to plant when cutting or clipping (P)

Positive Effects

- Reduction in fuel loading can help minimize destructive wildland fires in national forests (A)
- Can be used to create more natural tree size and age class distribution (B, M, H, R, P)
- Can rejuvenate mature and decadent shrub stands (M, B, P)
- Can be used to create openings for regeneration of shade-intolerant species (A)
- Can be used to help protect sensitive habitats from destructive wildland fire (A)
- Can be used to improve plant composition to meet desired objective (A)

Appendix C. Invasive Species

Invasive Nonnative Plant and Noxious Weed Risk Assessment

Invasive Nonnative Plant and Noxious Weed Risk Assessment Southern California National Forests Land Management Plan Revision 2005

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- O. Table 333. Comparison of Alternative Acres by Land Use Zone

Summary

Noxious weed risk assessments are a basic method to collectively consider pathways for weed introduction and factors that favor their establishment. They are used to predict weed risk prior to project-specific actions and are part of the environmental analysis. If a risk is predicted, operating procedures to reduce the risk are incorporated into the proposed action. In this risk assessment, opportunities for weed introduction and spread are evaluated relative to proposed forest plan direction and associated land use zone allocations. It considers noxious weeds and invasive nonnative plants of greatest ecological concern in California that are known to occur on the southern California national forests or those that could invade within the next five years (table 463: Invasive Nonnative Plant Species in FEIS). This document also discusses potential methods for weed eradication.

Determination

Under Alternatives 1 through 5, there is a moderate risk for the introduction and spread of invasive nonnative plants within most vegetation types on the national forests of southern California during the 10 to 15 year planning period. There is a low risk for Alternative 6.

Under all alternatives, there is a high risk for some plant communities (coastal sage scrub, desert woodland and scrub, low elevation chaparral, montane conifer, Monterey coastal, oak savanna and riparian habitats) that are currently degraded or have the potential to become highly disturbed.

Alternatives 6 and 3 would provide the lowest risk, followed by Alternatives 4a, 2, 4, 1, and 5. Alternatives 6 and 3, respectively, would provide the highest commitment to weed management and along with habitat protection and restoration of disturbed sites these alternatives would reduce the risk of weed introduction and spread. There would be a decrease in weed vectors due to recommendations for the designation of large blocks of wilderness and research natural areas, and large areas of land allocated as Experimental Forest, Critical Biological, Back Country Non-Motorized and Back Country Motorized Use Restricted land use zones (Alternative 6). Suitable acres for livestock grazing are also lowest in these alternatives. Alternative 4a would provide the next highest commitment to weed management for the same reasons stated above. See table 547: Percent of National Forest System Lands Less Susceptible to Invasive Species by Alternative.

The risks were calculated using the number of invasive plants (99 species total, 28 noxious) currently present or adjacent to the national forests, and the large number of vectors in southern California (roads, fire engines, urbanization, utility, and transportation corridors). Vectors associated with vegetation management, roads and motorized trails and their maintenance, and livestock grazing include acres vulnerable to ground disturbance, changes in vegetation structure, and the amount of public access. These vectors were analyzed in association with the types of vegetation communities affected by activities to develop an understanding of the situation. Acres of low impact land use zoning and special area designations, alternatives that would utilize the southern California national forest's Noxious Weed Strategy and the alternative emphasis on use of the integrated conservation strategy were also included. Design criteria anticipated to be used to prevent introduction and spread of invasive nonnative plants during project implementation were also taken into consideration when calculating risks.

I. General Invasive Species Risk Assessment Information

A. Policy

Forest Service Manual 2080 Noxious Weed Management includes a policy statement calling for a risk assessment for noxious weeds to be completed for every project. It is the District Ranger's responsibility for determining the risk of noxious weed risk or spread as part of the NEPA process for proposed actions. Specifically, the manual states:

2081.2 Prevention and Control Measures. Determine the factors that favor the establishment and spread of noxious weeds and design management practices or prescriptions to reduce the risk of infestation or spread of noxious weeds. Where funds and other resources do not permit undertaking all desired measures, address and schedule noxious weed prevention and control in the following order:

- First Priority: Prevent the introduction of new invaders
- Second Priority: Conduct early treatment of new infestations
- Third Priority: Contain and control established infestations
- **B. Prevention and Control Methods**

1. Prevention

It is much cheaper to prevent an infestation from becoming established than to try to eliminate it once it has begun to spread, or to deal with the effects of degraded vegetation communities. Prevention includes both reducing the human-assisted spread of seeds and other reproductive parts into a weed-free area, and prompt eradication of the first plants that show up. Preferably treatment occurs before plants reproduce, and especially before they reproduce several generations that may result in a locally adapted (and explosive) weed genotype; yellow star-thistle in particular has been observed to follow this pattern.

With invasive nonnative plants, it is never a good idea to "wait and see" if a known pest will become a problem. The most aggressive species will quickly become very expensive to control. Once a priority noxious weed (particularly one on California Department of Food and Agriculture's List A or B) is identified in an area, it should be eradicated immediately, while the costs are relatively small (California Department of Food and Agriculture 1998). Hand-pulling the first plant or few noxious weed plants that show up in an area is the most efficient and effective way the Forest Service has for reducing weed spread. That is why a noxious weed inventory is so important as inventory and initial attack can often occur at the same time.

2. Control

Cultural practices such as planting native vegetation or mulching may help to control weed spread. However, once invasive nonnative plants have been identified in an area, three methods are generally used to control them: mechanical (including burning), chemical, and biological. An environmental analysis would be completed prior to implementing site-specific control methods.

3. Cultural Practices

Cultural practices refer to land management activities that promote or maintain vegetative conditions least conducive for invasive nonnative plant spread. For example, management practices that reduce soil disturbance, promote more soil cover (duff, litter, and desirable vegetative cover), provide for more shade, or otherwise favor native species may help slow nonnative plant spread. Flooding is another example of cultural control. Cultural practices fit into both the prevention and the control categories. Maintaining a cover of native plants is increasingly recognized as being integral to reducing the susceptibility of wildland ecosystems to invasion by non-native plants.

4. Mechanical

The simplest and often most effective mechanical control is hand pulling or grubbing. If this is done before seed set, plants can be pulled and left in place. After seed maturity, plants, or at least seed heads, should be bagged and removed from the site and burned or otherwise disposed of. Other mechanical options include mowing and disking which, while they may set some weed populations back, are rarely effective in eliminating noxious weeds from a site. Mowing, for instance, often produces plants that are simply shorter and more branched, but still produce seed. It is important to know how the particular weed reproduces, since some weeds reproduce by spreading rootstalks and mechanical control may not be as

effective with these types of weeds. Girdling, weed eating, and soil solarization are additional methods (Tu, Hurd and Randall 2001).

5. Chemical

Chemical control usually refers to herbicide use on invasive nonnative plants. Herbicides may kill plants on contact with the foliage (for example, glyphosphate), may be pre-emergent inhibitors that do not allow seeds to germinate, or may be soil-moisture activated, which kill through interaction with the root systems (for example, hexazinone). Herbicides may be selective (for instance, killing broadleaf plants but not grasses or conifers) or broad spectrum. Considerations for chemical treatments include what the target weed species is, the time of applications (related to plants' phenology and soil moisture conditions), method of applications (hand-spread granular materials, backpack or boom truck sprays, or aerial application), and adjacent sensitive resources (rare plants or animals, municipal watershed, riparian areas). Selection of an herbicide or herbicides should be as target-specific as possible, so that the weeds are eliminated, but natives or other desirable plants are not. Application methods should also focus on direct application to targeted weeds. This helps maintain native plant communities and vegetative competition to resist reinfestation. Chemical control is generally more effective and cost efficient than hand pulling when a patch of weeds has exceeded a few (~100) plants, or when a weed seed bank has developed on the site. It is sometimes the only effective method for some rhizomanous or deep-rooted species.

6. Biological

Biological controls may be insects or disease that attack a noxious weed and kill it, reduce its reproduction, or weaken it so it is not as competitive with desirable vegetation. Biological controls should be target-specific so they will kill the intended weeds but not natives or other desirable species. The biological agent should be able to reproduce and spread quickly enough to keep up with the noxious weed invasion. Biological controls undergo rigorous testing for suitability and specificity before release. Biological controls are not effective on small, isolated, satellite weed populations, and therefore are not suitable for reducing the spread of noxious weeds. Since a fairly large infestation is required to provide feed for the agent over several generations, and since biological controls never totally eliminate an occurrence, biological control is effective only for attempting control of large, otherwise "lost cause" infestations.

II. Weed Risk Assessment

A. Risk Factors

1. Inventory – What is the status of the province inventory?

The southern California national forests' inventory for invasive nonnative plants is incomplete. Some riparian corridors and areas with habitat for threatened and endangered species have been inventoried extensively; some road corridors are moderately well known, but many rangelands and most wilderness areas have very incomplete inventories. Post-fire weed surveys were completed in targeted locations on all the national forests of southern California after the 2003 wildland fires. In 2005, occurrences of Spanish broom, tamarisk and fountain grass were mapped along three major transportation routes on the Mountaintop District of the San Bernardino National Forest.

Much of the known weed information resides at the district level with district staff. For use in this Forest Plan Risk Assessment, known information on invasive nonnative plants was compiled by national forest and district staff and is summarized in table 544: Numbers of Invasive species within planning area by category and Forest. Incomplete inventories suggest that other, undetected invasive non-native plant species may be present in the planning area. Data collection and data storage standards are not being met. A lack of inventory reduces program effectiveness by making it difficult to target scarce management resources on those areas most needing attention. As a result, populations of invasive nonnative plants are

more likely to become well established before control measures can be implemented. Despite this situation, recent progress has been made. Several biologists and botanists attended Natural Resource Information System (NRIS) invasive species training in 2005, and field data recorders have been purchased and are being used. The southern California national forests will begin entering invasive species data into the NRIS-Terra database in Fiscal Year 2005. Invasive plant treatment area data will also be entered into the FACTS database within this timeframe. A higher level of invasive species program management is expected over the life of the Plan due to the National Invasive Species Strategic Goal, use of the NRIS database, and recent agency reporting requirements.

2. Invasive Non-Native Plants – How many infestations are in the planning area?

Existing information shows that there are 99 invasive nonnative plants (as defined by the California Exotic Pest Plant Council List, 1999) on or adjacent to the national forests of southern California. See table 463: Invasive Nonnative Plant Species. The California Exotic Pest Council Plant List (http://groups.ucanr.org/ceppc/Pest_Plant_List) is composed of “*nonnative plants that are serious problems in areas that support native ecosystems, including parks, reserves, wildlife areas, national forests, as well as some working landscapes such as rangelands.*” Twenty-eight of these plants are officially designated as noxious weeds by the State of California (California Department of Food and Agriculture, 1998): 3 are “A” rated, 5 are “B” rated, and 20 are “C” rated. Of particular concern are the 45 invasive nonnative plant species that infest riparian areas.

The large numbers of invasive nonnative plant populations present on and adjacent to National Forest System lands present a moderate risk for most vegetation communities within the planning area. Coastal sage scrub, desert side montane, low elevation chaparral, montane conifer, Monterey coastal, oak savanna and riparian habitats are at high risk of further decline because they are currently degraded or susceptible to invasion.

3. Habitat Susceptibility - What are the components of the existing habitats that would be susceptible to weed introduction and spread?

Response to disturbance and amount of time necessary for revegetation to occur after disturbance varies among vegetation types across the four southern California national forests. Vegetation types (Stephenson and Calcarone 1999) expected to be most affected by activities in the proposed action are listed below.

- **Coastal sage scrub** - (552,735 acres, includes white sage/buckwheat). When fire becomes too frequent in this vegetation type the risk of invasion by annual, invasive nonnative grasses increases (Keeley 2001). High fire frequencies along major highways and in the “front country” foothills have reduced shrub cover and these lands are now prime locations for invasion by other nonnative plants.
- **Desert side montane** - (684,643 acres, includes pinyon woodland, semi-desert chaparral, Tucker scrub oak, basin sagebrush, and desert scrub). The open overstory canopies of these vegetation types produce understory vegetation that is more susceptible to weed invasion. These habitats have extremely long fire rotation intervals. Recently burned areas are at highest risk. Hereafter, in the forest planning documents and FEIS, this vegetation type will be referred to as Desert Woodland and Scrub.
- **Foothill Woodland** - (489,082 acres, includes coast live oak, blue oak woodland, Engelmann oak woodland, valley oak woodland, California walnut woodland, and Alvord oak woodland). Savanna woodlands with open canopies are vulnerable to invasion by nonnative annual grass. Coast live oak woodlands are less vulnerable due to closed canopies.
- **Chaparral** - (3,027,127 acres, includes all types). Fire frequency is within the natural range of variability in chaparral communities; it has not been affected by fire suppression (Keeley 2001). In intact chaparral communities, natural regeneration after wildland fires occurs quickly. However, in fire prone locations adjacent to the urban interface where fires occur more

frequently, and there are high concentrations of weeds, low elevation chaparral is vulnerable to habitat degradation. The amount of land burned in the 2003 wildland fires and the extent of fuel modification occurring within the Wildland/Urban Interface (WUI) Defense zone contribute to this risk.

- **Lower Montane Conifer Forest** - (375,580 acres, includes bigcone Douglas fir/canyon live oak, Coulter pine/canyon live oak, canyon live oak woodland, foothill and knobcone pine woodland, California bay forest, and broad-leaved upland forest). Fire has also been excluded in most of this type with the exception of bigcone Douglas-fir. There is mortality in Coulter pine and bigcone Douglas-fir and bigcone is susceptible to high levels of ozone. See Montane Conifer Forest.
- **Montane Conifer Forest** - (499,935 acres, includes mixed conifer-pine, mixed conifer-fir, Jeffrey-Ponderosa pine, black oak, redwood/Santa Lucia fir, subalpine conifer). Dense stands of these types with high cover (shade) and deep duff layers are less susceptible to weed invasion than other areas. However, fire has been excluded for 80 years resulting in overstocked stands, thick understory, and fuel buildup in some mid-elevation mixed conifer forests. Prolonged absence of fire makes many of these stands susceptible to intense crown fires and large acreages of stand replacing events. These areas would then be susceptible to invasion by weeds. Additionally, high mortality on the San Bernardino and Cleveland National Forests and completed fuel treatments has resulted in ground disturbing actions that could promote weed establishment. Proposals to create WUI Defense and Threat zones and the susceptibility of Ponderosa pine to high levels of ozone contribute to this risk.
- **Riparian and Montane Meadows** - Riparian areas have been highly modified and some locations receive high recreation use. Abundant moisture and disturbance make them vulnerable to certain subset of weeds (arundo, tamarisk, perennial pepperweed, Italian thistle, Canada thistle, spotted knapweed, and hydrilla).
- **Monterey coastal habitat** - A high number of aggressive invasive, mostly noxious weeds are present in locations currently disturbed or previously disturbed by landslides, high levels of recreation use, and livestock grazing.

4. Weed Vectors – What weed vectors currently exist in the planning area?

The current condition is that an estimated twenty-eight percent of all southern California national forest acres are currently disturbed. See table 545: Approximate Acres of major ground disturbance currently present. This acreage is expected to be reduced within several years as chaparral communities regenerate after the 2003 wildland fires. There are many potential invasive weed vectors.

Recreation use of the southern California national forests is high. There are many access routes between and within the national forests that are used by large number of people year-round. Approximately 31.3 million people live within one hour of the southern California national forests and 8 million are known to visit annually (Strugula, Winter, and Meyer 2001).

There is an extensive transportation system in southern California. There are currently 1,465 miles of state, country or federal roads, 3,780 miles of National Forest System roads, and 2,143 miles of unclassified and temporary road systems that occur on or cross National Forest System lands within the planning area. Miles of motorized and non-motorized trails within the planning area are used for off-highway vehicle use, bicycling, horseback riding, hiking, cross-country skiing, and for special-use events. Seed and plant parts may inadvertently be carried on vehicles, bicycle tires, horses and pack animals, equipment, camping gear, and on pets while utilizing the transportation system.

The Forest Service fire suppression organization in southern California is the largest in the nation. Forest Service fire engines and other support vehicles travel throughout the western states suppressing fires approximately eight months out of the year and return to their home units between fires. Many of the other western national forests are heavily infested with weeds, which can be transported back to the home

national forests on tires, other parts of fire engines and other fire suppression equipment. Southern California national forests also have a high incidence of wildland fire; approximately 250,000 acres within the four southern California national forests have burned in the last several years. Although substantive acres burned, many acres of forest and chaparral vegetation types remain at risk from wildland fire due to high tree mortality from the recent drought. Therefore, weeds could also be transported into the planning area from other national forests on fire fighting equipment used for southern California fire suppression. Weeds can also be transported locally between the southern California national forests as engines respond amongst the four southern California national forests. Burned areas and suppression related fuelbreaks support large acreages conducive to invasive plants.

Urbanization within and adjacent to the national forests is high. Homes and businesses occur along the boundaries of the four southern California national forests in numerous locations. Administrative facilities, recreation cabins and organization camps are also abundant in many locations within the southern California national forests. The southern California climate provides conditions conducive to a large number of horticultural species used for landscaping and many of these are invasive. Ground covers planted at administrative sites and recreation cabins prior to the adoption of the Regional Native Species Policy are well established in many locations. Wind, water and animals can transport seeds or plant propagules from these locations onto the adjacent national forest. Trimmings of horticultural plantings dumped onto National Forest System lands also contribute to invasive species introduction.

There are 32 Regional Transportation Corridors present within National Forest System lands in the planning area. These corridors are pathways for weed introductions into and throughout the national forests. The frequency of vehicle caused wildland fire is higher along these corridors resulting in degraded vegetation communities that are more susceptible to weed introduction and spread. There are 15 designated Utility Corridors present within National Forest System lands in the planning area. These are patches and linear corridors across the landscape. Vegetation is manipulated during corridor construction and is annually maintained to provide access for maintenance and for safety purposes. These corridors provide pathways for invasive species introduction. Annual soil disturbance provides the habitat for species to spread. There are three Designated Sediment Placement Sites within the planning area. Waterways (lakes, rivers, streams, and ditches) also contribute to the spread of weed seed and plant parts. The cross-country movement of livestock, game animals, and other wildlife and the high velocity of Santa Ana winds are also vectors of weeds. Noxious weeds are also transported in forage or mulch materials, soil, gravel or as a contaminant in seeding mixtures.

5. Habitat Alteration Expected as a Result of Proposed Land Management Plan Activities.

Vegetation and fuel treatments, National Forest System roads and the potential to add unclassified roads to the system, and livestock grazing are the three main proposed activities that make the southern California national forests susceptible to weed infestation. These acres are displayed in table 546: Estimated Percent of Southern California National Forest Acres Susceptible to Invasive Species. Effects of these activities are also discussed below. Several proposed activities that do not vary greatly by alternative but effect weed spread are also discussed.

Vegetation, Fuels and Fire Management

See table 546:(Estimated Percent of Southern California National Forest Acres Susceptible to Invasive Species) for the list of activities and estimated percent of the land base they would cover over the 15 year planning period. See the FEIS, Environmental Consequences, Invasive Species Management, Effects of Vegetation, Fuels and Fire Management section for descriptions of effects.

Road and Motorized Trails Management

See table 546:(Estimated Percent of Southern California National Forest Acres Susceptible to Invasive Species) for the acres of National Forest System road retained and also acres of unclassified roads that could potentially be designated as National Forest System roads by alternative. Temporary road

construction, road maintenance, road relocation, and road obliteration would cause a high level of habitat alteration. Road maintenance results in recurring disturbance that is highly conducive to invasive nonnative plant growth. The risk for the introduction and spread of invasive species can be related to the acreage designated for motorized use. The opportunity for adding to the motorized road and trail system varies by alternative, and the extent of this opportunity is directly related to the amount of area in which motorized recreation would be a suitable use. See table 359: Acres Managed for Motorized Uses as Defined by Land Use Zone.

In regards to unauthorized off-route travel, where unrestricted vehicle use occurs, vegetation is damaged or destroyed and opportunities for invasive nonnative plant introduction and spread are enhanced. The degree of risk is directly proportional to the number of miles of roads, motorized trails and non-motorized trails available, from which visitors may opt to travel off of roads and trails.

Livestock Grazing

Table 546:(Estimated Percent of Southern California National Forest Acres Susceptible to Invasive Species) shows suitable acres by alternative. See also table 108: Grazing Suitability by Forest by Alternative.

See the FEIS, Chapter 3, Environmental Consequences, Invasive Species Management, Effects of Livestock Management section. The risk of introduction and spread of invasive nonnative plants on grazing allotments is highest in those alternatives with the largest number of suitable grazing acres.

Coastal sage scrub, oak savanna and riparian communities have been identified as habitats at high risk from invasive species. Acres suitable for grazing within these vegetation types are shown by alternative in the table below. See the FEIS, Chapter 3, Environmental Consequences, Vegetation Management section, for the invasive species discussion. Table 550: Acres Expected to be Grazed by Key Vegetation Types.

Recreation Management

The population in southern California is expected to rise by 20 percent over the life of the forest plan. Recreational and off-highway vehicle demand is expected to rise in all alternatives; however, the type and location of uses would vary.

See the FEIS, Chapter 3, Environmental Consequences, Invasive Species, Recreation discussion for the effects of developed and dispersed recreation.

Special-Use Permit Administration

Recreation Special-Use Permits

There are 1,709 recreational residences within 62 tracts designated under special-use permit across the four southern California national forests. Many of these cabins were landscaped years ago with nonnative plants that are now known to become invasive. In some locations, groundcovers such as periwinkle and ivy have replaced the understory vegetation. There is currently a moderate weed risk from recreational residences because of the number of invasive nonnative plants that are present and established at a wide variety of locations. All of these permits would be retained except in Alternatives 3 and 6 which would provide opportunity to direct a small portion of lands under permit to a higher use.

Use of organization camps and recreational cabins causes direct removal of vegetation during use, maintenance and construction activities, consequently, soil compaction can occur. At organization camps, the clearing of vegetation for ballparks, corrals, campfire ceremony sites or group activity sites creates long-term disturbances that have high potential for invasion by weeds. These sites also provide an opportunity to provide conservation education regarding invasive species. There is no difference across alternatives regarding organization camps or ski areas under special-use permit. All existing special-use permits would be retained. A number of areas under special-use permit on the Angeles and San Bernardino National Forests provide downhill skiing, snowboarding, cross-country

skiing and snowplay activities. Ground-disturbing activities occur throughout the summer in one location to provide mountain biking opportunities. Because these locations are under special-use permit, there is an opportunity in all alternatives to include weed abatement as permits are renewed.

Recreational special-use events such as trail rides, motorcycle trials, motorcycle or bike races, archery contests, military maneuvers, search and rescue training, historical re-enactments, weddings and filming permits have the ability to introduce and promote the spread of weeds. Soil disturbance related to such events may occur outside the footprint of roads and trailheads involved because of the nature of the activity and presence of viewing spectators.

Non-Recreation Special-Use Administration

Table 308: Acreage Suitable for Consideration of Non-Recreation Special-Uses shows the acreage available for new special-use permits by alternative. The availability is related to acreage zoned as available for public motorized use.

All existing communications sites and utility and transportation corridors would be retained in all alternatives. The proposed Western Utility Group routes for the Cleveland National Forest at El Cajon Mountain (six miles) is a suitable use in Alternatives 1, 2, 4, 4a, and 5. The Elsinore to San Mateo corridor (23 miles) is within suitable land use zones in Alternatives 1, 4, 4a, and 5. Therefore, in Alternatives 3 and 6, there would be reduced risk of weed infestation along a new utility corridor on the Cleveland National Forest compared to other alternatives.

Acres authorized for oil, gas, and minerals exploration and extraction do not vary by alternative. The actual acres affected would depend upon the number of applications received. Mineral and energy development would have a direct effect by removing the existing vegetation and exposing mineral soils, making weed invasions possible. There is a high risk for this to occur, as invasive nonnative plants are more likely to become established on these exposed areas. After exploration or production is completed, the sites would be reclaimed. Reclamation activities would also provide the opportunity to eradicate invasive species.

Activities associated with water diversions (hydroelectric power projects) include evaluating proposals for licensing or re-licensing of surface water extraction, associated impoundments and storage, diversions and construction and maintenance of these facilities. Transportation systems, power lines and utility corridors, sediment placement sites and gauging stations associated with these activities are included. Long-term displacement of individual plants and trees can result from habitat alteration because of sediment removal for dam maintenance and water impoundment, creating lack of flow. Changes in water quality and quantity can cause declines in native riparian vegetation, creating opportunities for tamarisk, arundo and other invasive nonnative riparian species to take hold. Once these species become established, they are difficult if not impossible to eradicate and can become source populations that infest other areas as well.

Riparian communities are especially vulnerable to invasion by nonnative species. Water diversions and extractions place riparian communities at risk for invasion because of the intensity and duration of their effects. Vast acreages of streams now infested with arundo, tamarisk and tree of heaven occur throughout the planning area.

Invasive Species Management

The effects of invasive species were identified as an issue in the forest plan scoping process. In response, the southern California national forests' Noxious Weed Management Strategy was completed for Alternatives 2 through 6. See Appendix M in Part 3 of the forest plan for a detailed program description.

Also, under Alternatives 2 through 6, invasive species management would be conducted through implementation to meet the national goal and revised forest plan standards. Invasive species management

is also identified within the integrated conservation strategy. Alternatives would vary by the rate at which the national forests would accomplish tasks in this strategy. Alternatives with the greatest emphasis on the strategy are expected to have the greatest reduction of effects from invasive species over time.

Common to all alternatives, the highest priority would be on surveying for the early detection of invasive species in order to contain and control them in riparian areas, in threatened, endangered, proposed, candidate, and sensitive species habitat, and in areas where there is a high potential for rapid rate of spread. Methods to control invasive species do not vary by alternative. Site specific environmental analysis would occur prior to all projects and Design Criteria (standards, manual direction and laws), and strategies would be applied to reduce weed infestation to the greatest extent possible. Monitoring is the tool that national forests would use to help verify the accuracy of the assumptions and to detect inadequate performance. Monitoring would focus on measuring movement towards desired conditions over the long-term, would measure individual invasive species program accomplishments annually, and would measure how well project implementation follows forest plan direction. All three parts use an adaptive management approach designed to lead to continuous improvement.

Low Impact Land Use Zoning and Recommended Special Area Designations

See table 547: (Percent of National Forest System Lands Less Susceptible to Invasive Species by Alternative) for the percent of all National Forest System lands that would be less susceptible to invasive species over the life of the plan due to land use zoning and new special area designations.

Back Country Motorized Use Restricted, Back Country Non-Motorized, Experimental Forest and Critical Biological zones are expected to be less susceptible to invasive species due to reduced motorized access. New special area designations (wilderness, research natural areas, special interest areas) would receive a lower level of impact and less motorized use, thus would be expected to be less susceptible to invasive species encroachment. The following tables show land use zoning and special designations by national forest.

See table 304: Wilderness Acres (Existing and Recommended) by Alternative

See table 318: Cleveland National Forest Candidate Research Natural Areas Recommended By Alternative

See table 319: Los Padres National Forest Candidate Research Natural Areas Recommended By Alternative

See table 320: San Bernardino National Forest Candidate Research Natural Areas Recommended By Alternative

See table 333: Comparison of Alternative Acres by Land Use Zone

6. Increased Weed Vectors as a Result of the Proposed Action

Table 546:(Estimated Percent of Southern California National Forest Acres Susceptible to Invasive Species) shows the lands susceptible to invasive species from vegetation and fuel treatments, National Forest System roads and unclassified roads that could become designated as National Forest System roads by alternative and livestock grazing.

As access into vegetation management treatment areas is improved, temporary road construction, maintenance, and relocation would increase the number of vectors for bringing weed seed into the treated areas. Road obliteration would cause a decrease of this risk over time. There would be a significant influx of equipment and workers to complete these projects over the life of the forest plan, which would increase the potential for introduction of weed seed or plant parts. This is expected to occur to some extent even with weed washing stations in place.

Fire, resource, fuel treatment contractors, and their transport vehicles (fire engines, Forest Service fleet vehicles, and logging equipment) are currently and would continue to be used extensively over the

planning period to conduct vegetation management activities. This would include construction and maintenance of WUI Defense and Threat zones, removal of dead trees, forest thinning and prescribed burning.

The population within southern California is expected to rise by approximately 20 percent over the next 15 years. Recreational visitor use and off-highway vehicle use is expected to increase on the southern California national forests.

Wildland fire is one of the natural ecological processes that occur within Southern California vegetation communities. Wildland fire is expected to increase due to increases in human population, predicted increased visitor use and high tree mortality acreage in upper and lower montane forests. Fire intensity may be high in some locations. Fire suppression vehicles are vectors. In the lower elevations, post fire flooding events may increase the spread of arundo propagules throughout riparian corridors. Removal of arundo and tamarisk from riparian corridors are expected to reduce infestations during the planning cycle that may mitigate this risk. Post fire Burned Area Emergency Rehabilitation treatments using erosion control materials, such as hay bales and mulches, seed mixes, fill, and gravels also have the potential for introducing noxious weeds into an area despite efforts to use certified weed free materials. Standards in the forest plan are designed to mitigate this risk.

There are no known changes in state or county roads; however, proposals for these types of actions are expected to increase over the life of the plan. All existing communications sites and utility and transportation corridors are retained in all alternatives. The proposed Western Utility Group routes for the Cleveland National Forest at El Cajon Mountain (six miles) is a suitable use in Alternatives 1, 2, 4, 4a, and 5. The Elsinore to San Mateo corridor (23 miles) is within suitable land use zones in Alternatives 1, 4, 4a and 5. If constructed, an increase in vector pathways would occur. Wildlife migration patterns are not expected to change as a result of the proposed action, so no change in weed vectors from this factor is expected.

7. Resource Protection Measures – What management practices are available to reduce risk?

- All laws and Forest Service Manual direction would be implemented.
- Implementation of proposed activities would require site-specific analysis at the project level. A Noxious Weed Risk Assessment would be included in the environmental analysis to determine if mitigation measures are needed to prevent introduction and spread of invasive non-native plants.
- Application of practices identified in the *Guide to Noxious Weed Prevention Practices* (USDA Forest Service 2001), as appropriate
- The Forest Service, Region 5 Native Plant Policy would be implemented.
- The USFS Native Plant Materials Policy (Washington Office amendment to Forest Service Handbook) would be implemented when finalized.

In all but Alternative 1, the no action alternative, the following Strategies would be implemented on a case-by-case basis and the Design Criteria listed below would provide management direction for the Invasive Species Program.

- The southern California National Forests' Noxious Weed Management Strategy (Appendix M. Part 3 of the forest plans)
- Invasive species management actions within the integrated species conservation strategy
- Motorized and nonmotorized vehicle travel would be restricted to National Forest System roads and trails and limited areas that are designated for vehicle use.
- Seed, wattles, mulch and livestock feed (when available in southern California) would be certified to be free of noxious weeds. Where available, only locally collected native seed would be used, or seed from species that are noninvasive and nonpersistent.

- Fuel treatment areas would be designed to minimize the risk that treated areas would be used by unauthorized motorized and mechanized vehicles. Impacts would be mitigated where they occur.
- Maximum size openings created by tree removal are identified and thinning of forests should favor retention of large diameter trees.
- Within burn areas, a site-specific analysis would be performed within designated livestock areas to determine the level of livestock use, if any. Livestock numbers would not be increased beyond permitted numbers within the first two years.
- When new projects are proposed in riparian areas, standard S-47 and Appendix E, the Five-Step Project Screening Process for Riparian Conservation Areas would be applied.
- Allotment specific review of rangeland capability and suitability guidelines shall occur as part of site-specific allotment or livestock grazing area level environmental analysis. Permits would not be issued for livestock grazing areas that are determined to be not suitable or have insufficient grazing areas for sustaining a livestock operation. (Capable lands are not suitable in areas where a noxious weed risk analysis has determined that livestock use is a key limiting factor in meeting or moving towards vegetation management objectives. Exceptions could be where livestock are used as a tool for noxious and invasive weed control.) See forest plan, Part 3, Appendix J. for additional suitability criteria related to soils that would reduce susceptibility for weed introduction.
- Within designated livestock areas, an effective soil cover of 60 percent would be maintained.
- Salt and mineral locations would be located greater than 1/4 mile from all water sources.
- Grazing utilization standards for residual dry matter, percent utilization and percent streambank alteration would apply.
- No vegetation type would be suitable for type conversion for forage production.
- On the Cleveland National Forest, within the Laguna Recreation Area, mountain biking and equestrian use would be restricted to National Forest System roads and designated trails.
- On the San Bernardino National Forest, in carbonate habitat, mine restoration prescriptions would include the success criteria and provisions for effectiveness monitoring and reporting as described in the Carbonate Habitat Management Strategy.
- On the San Bernardino National Forest, in wilderness areas, reintroduction of any plant would not be allowed unless that species is indigenous and was extirpated by human induced events.

8. Anticipated Weed Response to the Proposed Action

Given the: (1) high number of invasive nonnative plants present in the planning area, (2) moderate level of on-going disturbance combined with the large acreage of vegetation burned in the 2003 wildland fires, (3) abundance of weed vectors, (4) continued moderate level of disturbance in the proposed action, (5) temporarily and permanently increased vectors, (6) use of proposed Design Criteria (standards, manual direction and laws), and implementation of the southern California National Forest's Noxious Weed Strategy (Appendix M), it is concluded that proposed forest plan direction would result in a moderate risk to most vegetation types of increased noxious weed spread in the planning area. Coastal sage scrub, desert woodland and scrub, low elevation chaparral, montane conifer, Monterey coastal, oak savanna and riparian habitats are at high risk of further decline because they are currently degraded or susceptible to invasion. This risk would be reduced by application of forest plan direction but the degree that this risk would be reduced can be limited by the lack of available funds.

The expected weed response would vary somewhat depending on the specific action and the vegetation types. Wildland/Urban Interface (WUI) Defense zones and open fuelbreaks (high habitat susceptibility), often adjacent to roads (high introduction potential) creates the potential for greatly increased weed spread both linearly (down the length of the fuelbreak) and laterally into the modified (and from there into

the unmodified) vegetation zone. WUI Defense zones or fuelbreaks located in or near riparian areas may cause weed spread into this sensitive habitat and would be particularly degrading. Due to the acreage and span involved, this may result in an increase in noxious weed spread as a result of the proposed action. Application of mitigation measures would reduce this risk.

Individual tree selection thinning and shaded fuelbreaks would result in a weed response similar to WUI Defense zones and open fuelbreaks except with a much less risk since the resulting stand is likely to have higher canopy cover, and units are not necessarily arranged linearly and associated with roads.

Road maintenance would result in an increase in noxious weeds due to both the habitat modification and increased vectors for weed introduction and risks from use of roads over a long-term. Alternatives with higher road miles (acres) and those with greater potential for designation of unclassified roads pose the greatest risk. Areas grazed by livestock would also increase this risk.

Treatment activities (control of existing noxious weed occurrences) implemented as part of project activities would result in a decrease in noxious weed spread and infestation. This would be most effective for small, isolated patches of noxious weeds in or near the specific project area.

B. Alternative Response to the Weed Management Issue

Three methods of alternative analysis were utilized. Using the results of these analyses, a relative rating of susceptibility was determined. See table 562: (Relative Rating of Alternatives to Susceptibility of Invasive Species Spread).

The first method utilized the acres of ground disturbing activities, changes in vegetation structure, and vector access as a result of vegetation and fuels treatments, livestock grazing and National Forest System roads and unclassified roads. Proposed activity acreages and the estimated percent of National Forest System lands that would be affected are shown in table 546: (Estimated Percent of Southern California National Forest Acres Susceptible to Invasive Species). This analysis shows that Alternative 6 would result in the least amount of ground disturbance, 16 percent of the acreage would be disturbed over the life of the plan. The other alternatives would result in greater acreages of ground disturbance; however, they do not vary greatly across alternatives. Alternative 3 would disturb 29 percent of the acreage, then Alternatives 2, 4, and 4a with 30 percent, Alternative 5 with 33 percent and Alternative 1 with 34 percent.

The second method compared the amount of area in low impact zoning (no motorized public access) and new recommended special designations across alternatives. These areas are expected to be less susceptible to nonnative species invasion. The acreage of existing wilderness zoning and existing special area designations (e.g., research natural areas, and special interest areas) is the same in all alternatives and thus not included in this analysis. Back Country Motorized Use Restricted, Back Country Non-Motorized, Critical Biological, recommended wilderness, and experimental forest zoning as well as new recommended research natural areas and special interest areas are expected to contribute to a lower level of ground disturbing impacts than other zones (see table 547: (Percent of National Forest System Lands Less Susceptible to Invasive Species by Alternative). Based on this analysis, we found that only 15 percent of the land base in Alternative 1 would be less susceptible to invasive species infestation due to low impact zoning and new special area designation compared to Alternatives 4 (16 percent), 2 (19 percent), 3 (40 percent), 4a (42 percent), and 6 (51 percent). Alternative 5 would have less than 1 percent of the land base, outside of existing wilderness and special designations, in areas with lower potential for invasive species spread. The desired condition would be reached sooner in those alternatives with a higher emphasis on the integrated conservation strategy and those with the highest acreage of low impact land uses.

The third method considered those alternatives (Alternatives 2 through 6), which included the invasive species strategic goal, the revised set of Standards, and the southern California National Forests' Noxious Weed Management Strategy (Appendix M. Part 3 of the forest plan). This strategy addresses the invasive species issue by providing a detailed strategy for the next three to five years of work. The level of

alternative emphasis which includes invasive species management actions included in the integrated conservation strategy was also considered. The highest level of emphasis on the integrated conservation strategy would occur in Alternative 6 followed by Alternatives 3, 4a, 2, 4, 1, and 5. Alternative 1 would continue to provide a high level of emphasis for invasive species management within listed species habitat; however, this alternative was rated lower as it would lack the strategic direction such as the invasive species strategic goal, the southern California National Forests' Noxious Weed Strategy, the revised set of forest plan standards and management actions within the integrated conservation strategy present in the other alternatives.

To compare the seven alternatives, all three methods were used to give a relative rating to susceptibility. See table 562: (Relative Rating of Alternatives to Susceptibility of Invasive Species Spread). This comparison shows that Alternative 6 has the lowest susceptibility to weed infestation, followed by Alternatives 3, 4a, 2, 4, and then 1 and 5.

Determination

Under Alternatives 1 through 5, there is a moderate risk for the introduction and spread of invasive nonnative plants within most vegetation types on the national forests of southern California during the 10 to 15 year planning period. There is a low risk for Alternative 6.

Under all alternatives, there is a high risk for some plant communities (coastal sage scrub, desert woodland and scrub, low elevation chaparral, montane conifer, Monterey coastal, oak savanna and riparian habitats) that are currently degraded or have the potential to become highly disturbed.

Alternatives 6 and 3 would provide the lowest risk, followed by Alternatives 4a, 2, 4, 1, and 5. The greatest progress towards meeting the desired condition for invasive species management would occur under Alternatives 6 and 3, respectively. These alternatives would provide the highest commitment to weed management and along with habitat protection and restoration of disturbed sites these alternatives would reduce the risk of weed introduction and spread. There would be a decrease in weed vectors due to recommendations for the designation of large blocks of wilderness and research natural areas, and large areas of land allocated as experimental forest, Critical Biological, Back Country Non-Motorized and Back Country Motorized Use Restricted land use zones (Alternative 6). Suitable acres for livestock grazing are also lowest in these alternatives. Alternative 4a would provide the next highest progress toward meeting the desired condition for invasive species management for the same reasons stated above. See table 547: (Percent of National Forest System Lands Less Susceptible to Invasive Species by Alternative).

The risks were calculated using the number of invasive plants (99 species total, 28 noxious) currently present or adjacent to the national forests, and the large number of vectors in southern California (roads, fire engines, urbanization, utility, and transportation corridors). Acres vulnerable to ground disturbance, changes in vegetation structure and public access as vectors from vegetation management, roads and motorized trails and their maintenance, and livestock grazing, and the types of vegetation communities in which activities would occur was utilized in the analysis. Acres of low impact zoning and special area designations, alternatives that would use the Noxious Weed Strategy, and the alternative emphasis on use of the integrated conservation strategy were also included. Design criteria anticipated to be used to prevent introduction and spread during project implementation were also taken into consideration when calculating risks.

C. Costs and Benefits

It is generally difficult to produce meaningful figures in a cost/benefit analysis for noxious weed prevention since it requires assumptions on the rate of weed spread, future control costs, habitat vulnerability, and other factors that are difficult to determine, and it requires attaching monetary values to resources that are not readily appraised.

However, in general, it is much cheaper to prevent infestations and treat small, new infestations than to attempt to treat large outbreaks. Wildland fire initial attack makes a good analogy, except that noxious weeds will never burn themselves out. Treatment costs cannot be estimated at this time, since the Forest Service does not know how many acres of weeds currently exist.

The management practices that are proposed as part of the action, and selected cultural practices, would result in an undetermined increased cost for project implementation. These increased costs are not anticipated to be prohibitively expensive, and need to be weighed against anticipated benefits. The benefits of keeping an area weed-free include monetary values, since weed-free land has a higher appraisal value for forage, harvest game species, recreation, and reduced fire risk.

Ecological factors are more difficult to quantify, but are at least as important, since noxious weeds degrade threatened, endangered, sensitive, and rare species habitat, visuals, watershed values, and biodiversity. The cost of current treatment and prevention would also be weighed against the future cost of treating a much larger infestation and future land degradation if prevention measures or control of small patches are not undertaken now.

III. References

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IV. Tables

Table 463. Invasive Nonnative Plant Species

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivision	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
List A-1&2 Most Invasive									
<i>Ammophila arenaria</i>	European beach grass	Coastal dunes	SCo, CCo	A-1				A	
<i>Ailanthus altissima</i>	Tree of heaven	Riparian, grasslands, oak woodlands	CA-FP, SCo	A-2	C#	Y	Y * 10	Y	Y*
<i>Arundo donax</i>	Giant reed, arundo	Riparian	CCo, SCo, SnGb, D	A-1	C#	Y*	Y * 10	A	Y*
<i>Atriplex semibaccata</i>	Australian saltbush	SoCal, Coastal grasslands, scrub, coastal salt marshes	CA (except CaR, C&csSN)	A-2				Y	Y
<i>Brassica tournefortii</i>	African mustard	Washes, alkaline flats, disturbed areas in Sonoran Desert	SW, D	A-2					Y
<i>Bromus madritensis ssp. rubens</i>	Red brome	Scrub, desert scrub type conversions	CA	A-2		Y	Y 50000+	Y 400000	Y
<i>Bromus tectorum</i>	Cheat grass	Sagebrush, PJ, other	D	A-1		Y	Y 10000+	Y 1000000	Y*
<i>Cardaria draba</i>	White-top, hoary cress	Riparian, marshes of central coast, disturbed areas, grassland, scrub	CCo and others	A-2	B			Y 2000	
<i>Carpobrotus edulis</i>	Iceplant, sea fig	Coastal communities, dunes	SCo, CCo	A-1				Y	
<i>Centaurea solstitialis</i>	Yellow star thistle	Grasslands	CA-FP	A-1	C	Y	Y	Y	Y*
<i>Conicosia pugioniformis</i>	Narrow-leaved iceplant, roundleaf iceplant	Coastal dunes, sandy soils near coast, best documented in San Luis Obispo & Santa Barbara Co.	CCo	A-2					

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivision	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
<i>Cortaderia jubata</i>	Andean pampas grass	Coastal habitats, disturbed sites	CCo,WTR, SCo	A-1	C#		Y 10	Y	
<i>Cortaderia selloana</i>	Pampas grass	Coastal dunes, scrub, Monterey pine forest, rip, grasslands, wetlands, serpentine	SCo, CCo	A-1				Y	Y*
<i>Cotoneaster pannosus, C. lacteus</i>	Cotoneaster	Coastal communities, Big Sur	CCo	A-2				Y	
<i>Cynara cardunculus</i>	Artichoke thistle	Coastal grasslands	CA-FP, esp. CCo, SCo	A-1	B		Y * 100	Y	
<i>Cytisus scoparius</i>	Scotch broom	Coastal scrub, oak woodlands	SCo, CW	A-1	C	Y		Y	
<i>Ehrharta calycina</i>	Veldt grass	Sandy soils, esp. dunes	CCo, SCoRO, WTR	A-2			A	Y	
<i>Eichhornia crassipes</i>	Water hyacinth	Waterways	SCo, PR	A-2					Y
<i>Elaeagnus angustifolius</i>	Russian olive	Interior riparian areas	DMoj	A-2			Y		Y
<i>Eucalyptus globulus</i>	Tasmanian blue gum	Riparian, grasslands	CCo, SCo	A-1			Y 100		Y
<i>Ficus carica</i>	Edible fig	Riparian woodlands	SCo	A-1			Y 25		Y
<i>Foeniculum vulgare</i>	Wild fennel	Grasslands	CA-FP, SCo	A-1			Y	Y	Y
<i>Genista monspessulana = Cytisus monspessulana</i>	French broom	Coastal scrub, oak woodlands, grasslands	CCo, SCoRO, WTR, PR	A-1	C			Y	
<i>Lepidium latifolium</i>	Perennial pepperweed,	Coastal inland marshes, riparian, wetlands, grasslands, potential to invade montane wetland	CA	A-1	B			Y	
<i>Lupinus aboreus</i>	Bush lupine	Native to SCo, invasive in Nco dunes	CCo, SCo	A2				Y-May be native on MRD	

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivison	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
<i>Myoporum laetum</i>	Myoporum	Coastal riparian areas	SCo, CCo	A-1				Y	
<i>Pennisetum setaceum</i>	Fountain grass	Grasslands, dunes, desert canyons, roadsides	CCo, SCo	A-1			Y	Y	A
<i>Rubus discolor</i>	Himalayan blackberry	Riparian marshes, oak woodlands	CA-FP	A-1			Y 500	Y	Y
<i>Saponaria officinalis</i>	Bouncing bet	Meadows, riparian	SCoRO, SCo, PR	A-2				Y	Y
<i>Senecio mikanioides</i> = <i>Delairea odorata</i>	Cape ivy, German ivy	Coastal, riparian, south side San Gab. Mts.	CCo, SCo, SW	A-1	C#	Y	Y	Y	
<i>Taeniatherum caput-medusae</i>	Medusa-head	Grasslands, poorly drained areas	SCo	A-1	C			Y	
<i>Tamarix chinensis</i> , <i>T. gallica</i> , <i>T. parviflora</i> , <i>T. ramosissima</i> Note: <i>T. chinensis</i> and <i>T. gallica</i> are high potential, others are present	Tamarisk, salt cedar	Desert washes, riparian, seeps and springs	SCo,D, SCoRI, WTE	A-1	C#	Y	Y * 100	Y	Y*
List B lesser invasives									
<i>Ageratina adenophora</i>	Eupatory	Coastal canyons, coastal scrub, slopes, Marin to San Diego County, San Gab. Mts.	CCo,	B					Y
<i>Bassia hyssopifolia</i>	Bassia	Alkaline habitats	CA	B					Y
<i>Brassica nigra</i>	Black mustard	Coastal, especially fogbelt grasslands, disturbed areas	CA-FP	B		Y	Y	Y	Y
<i>Carduus pycnocephalus</i>	Italian thistle	Grasslands, shrublands, oak woodlands	CW, SCo	B	C			Y	
<i>Centaurea calcitrapa</i>	Purple star thistle	Grasslands	CW, SW	B	B			Y	
<i>Centaurea melitensis</i>	Tocalote	Widespread, sometimes mis ID'd as <i>C. solstitialis</i> , perhaps a more serious invader than thought	CA-FP, D	B	C#		Y 5000+	Y	Y
<i>Cirsium arvense</i>	Canada thistle	Riparian areas	CA-FP	B	B		Y		
<i>Cirsium vulgare</i>	Bull thistle	Riparian, marshes, meadows	CA-FP	B	C#		Y	Y	Y

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivison	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
<i>Conium maculatum</i>	Poison hemlock	Riparian and oak understory, expanding in San Diego County	CA-FP	B			A?	Y	Y
<i>Ehrharta erecta</i>	Veldt grass	Wetlands, grasslands	CCo, SCo	B				Y	
<i>Erechtites glomerata, E. minima</i>	Australian fireweed	Coastal woodlands, scrub, NW forests especially redwoods	CCo, SCoRO	B				Y	
<i>Festuca arundinacea</i>	Tall fescue	Coastal scrub, grasslands NCo, CCo	CA-FP	B					Y
<i>Hedera helix</i>	English ivy	Coastal forests, riparian	CA-FP	B		Y	Y * 25		A Y?
<i>Holcus lanatus</i>	Velvet grass	Coastal grasslands, wetlands in No. CA	CA exc. D Son	B				Y	Y
<i>Olea europaea</i>	Olive	Riparian in Santa Barbara, San Diego	CCo, SCo	B			Y* 100		A Y?
<i>Phalaris aquatica</i>	Harding grass	Coastal sites, moist soil	CCo, SCo	B			Y		Y
<i>Potamogeton crispus</i>	Curlyleaf pondweed	Ponds, lakes, streams	CCo, SCo, SnGb, SnBr, DMoj	B					Y
<i>Ricinus communis</i>	Castor bean	SoCal coastal riparian	SCo, CCo	B		Y	Y * 25		Y
<i>Robinia pseudoacacia</i>	Black locust	Riparian, canyons	CA-FP	B		Y	Y* 5	Y	Y
<i>Schinus molle</i>	Peruvian pepper tree	Riparian in San Diego	CW, PR	B			Y		Y
<i>Schinus terebinthifolius</i>	Brazilian pepper	Riparian areas	sSCo	B		Y			
<i>Spartium junceum</i>	Spanish broom	Coastal scrub, grasslands, wetlands, oak woodland, roadcuts	SCoRO, SCo, WTR	B	C#	Y	Y * 10	Y	Y*
<i>Verbascum thapsus</i>	Woolly mullein	Meadows, sagebrush, PJ woodlands	CA	B			Y		Y
<i>Vinca major</i>	Periwinkle	Riparian, oak woodland, coastal hab.	CCo, sSCoRO, SCo	B		Y	Y * 25	Y	Y

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivision	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
Red Alert: Potential to spread explosively									
<i>Centaurea stoebe</i> ssp. <i>micranthos</i> Formerly <i>C. maculosa</i>	Spotted knapweed	Riparian, grassland, wet meadows, forests,	nCW, sPR	Red alert	A	Y	A	A	Y
<i>Hydrilla verticillata</i>	Hydrilla	Noxious water weed	SCo, D	Red alert	A		A?		
<i>Linaria genistifolia</i> ssp. <i>dalmatica</i>	Dalmatian toad flax	Disturbed pastures, Big Bear Fire Station and Meadow	CA-FP		A		A?	Y*	Y*
Need more information									
<i>Asphodelus fistulosus</i>	Asphodel	SCo highways	SCo	Need info					A
<i>Convolvulus arvensis</i> Moved from Considered but not listed per M. Larder	Field bindweed	Disturbed sites, ag sites	Waterman Cyn						Y
<i>Descurainia sophia</i>	Tansy mustard	Mojave wildlands	CA	Need info				Y	Y
<i>Dimorphotheca sinuata</i>	African daisy, cape marigold	Invasive in W. Riverside, Ventura Co.	SCo, PR	Need info					Y
<i>Echium candicans</i> , <i>E. pininana</i>	Pride of Madeira Pride of Teneriffe	Riparian, grasslands, coastal sage scrub,	CcO, SCo	Need info			A?		
<i>Euphorbia dendroides</i>	spurge	Angeles National Forest	Not in Jepson			Y*			
<i>Euphorbia lathyris</i>	Gopher plant	Coastal scrub, marshes, dunes	CCo, SCo	Need info					Y
<i>Gazania linearis</i>	Gazania	Grassland, coastal scrub?	CCo, SCo	Need info			Y		
<i>Hedera canariensis</i>	Algerian ivy	Riparian in so. Cal	Not in Jepson	Need info		Y		Y	
<i>Hirschfeldia incana</i>	Mediterranean or Short pod mustard	w. and s. Mojave	CW, SCo, DMoj	Need info			Y	Y	
<i>Hypochaeris radicata</i>	Rough cat's ear	Coastal grasslands, wetlands	CW, SCo	Need info				Y	

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivison	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
<i>Lathyrus latifolius</i> and others	Perennial sweetpea	Invader in Big Bear, SBNF meadows, rip							Y*
<i>Nicotiana glauca</i>	Tree tobacco	Disturbed and in coastal scrub, chaparral	CW,SW, D	Need info		Y	Y 5000+	Y	Y
<i>Oxalis pes-caprae</i>	Bermuda buttercup	Disturbed habitats	CCo, SCoRO, SCo	Need info			Y	Y	A
<i>Pennisetum clandestinum</i>	Kikuyu grass	Disturbed sites, roadsides	CCo, SCo	Need info	C			Y	Y
<i>Piptatherum miliaceum</i>	Smilo grass	SoCal creeks, canyons	CW, SCo,	Need info				Y	A
<i>Poa bulbosa</i>		Conifer forest CNF at Garnet Peak, Coldbrook meadows on SBNF					Y 1000+	Y	Y
<i>Prunus cerasifera</i>	Cherry plum	Oak woodland, rip areas	CCo	Need info					N Y?
<i>Pyracantha angustifolia</i>	Pyracantha	Horticultural, spreads from seed from birds	CCo,SCo	Need info			Y		
<i>Salsola tragus</i>	Russian thistle, tumbleweed	w. Mojave desert, not limited to disturbed sites	CA	Need info	C	Y	Y	Y	Y
<i>Salsola paulsenii</i> may hybridize with <i>S. tragus</i>)	Barbwire Russian thistle, Tumbleweed	Limited to disturbed sites	WTR,DMoj		C				Y
<i>Tribulus terrestris</i>	Puncture vine	Dry disturbed areas, at 3000' w/interior live oak	CNF, Cameron Fire Station		C		Y		Y

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivison	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
Annual Grasses that pose significant threats									
<i>Avena barbata</i>	Slender wild oat	Coastal slopes, coastal sage scrub, disturbed	CA-FP, DMoj				Y	Y	A Y?
<i>Avena fatua</i>	Wild oat	Coastal slopes, coastal sage scrub, disturbed	CA-FP, DMoj			Y	Y	Y	Y
<i>Brachypodium distachyon</i>	False brome	SoCal, common in Orange Co.	CW, SCo,				A?		
<i>Bromus diandrus</i>	Ripgut brome	Coastal dunes, coastal sage scrub, grasslands Add oak woodlands? See it with Q. kell. and Q. agrifolia	CA			Y	Y	Y	Y
<i>Lolium multiflorum</i> (also <i>Loilium perenne</i> and <i>Lolium temulentum</i> on SBNF)	Italian ryegrass	Wetlands, esp. vernal pools in San Diego Co. and disturbed sites	CA-FP			?	Y	Y	Y
<i>Schismus barbatus</i>	Mediterranean grass	Threat to Mojave and Colorado desert shrublands?	D				Y	Y	Y
Considered, but not listed									
<i>Dipsacus sativus</i> <i>D. fullonum</i>	Wild teasel. Fuller's teasel	Roadsides, disturbed sites	City Creek Fire Station on SBNF				Y		Y
<i>Fumaria officinalis</i> <i>F. parviflora</i>	Fumitory	Salt marshes, sandy disturbed sites	<i>F. parviflora</i> is in orchard in Banning near SBNF						A
<i>Medicago polymorpha</i>	California bur clover	Disturbed, grasslands and moist sites						Y	A
<i>Melilotus officinalis</i> <i>Melilotus alba</i>	Yellow sweet clover White sweet clover	Restricted to disturbed sites in CA	Both in Big Bear Valley of SBNF, LPNF			Y	Y Y	Y	Y* Y*

Table 463. Invasive Nonnative Plant Species									
Scientific Name	Common Name	Habitat(s)	Distribution by Geographic Subdivison	CalEPPC pest listing	CDFA Pest Rating	ANF	CNF	LPNF	SBNF
<i>Nerium oleander</i>	Oleander	Riparian areas in CV and San Bernardino Mts.	Waterman and Badger Cyns on SBNF			Y			Y
<i>Picris echioides</i>	Bristly ox-tongue	Disturbed sites	Lake Silverwood on SBNF				Y		Y
<i>Silybum marianum</i>	Milk thistle	Disturbed, overgrazed moist pasturelands, may interfere with restoration	Devil Cyn and mouth of Santa Ana River Cyn				Y	Y	A Y?
<i>Xanthium spinosum</i>	Spiny cocklebur	Native in Jepson and Munz, restricted to disturbed areas	Loma Linda and Mojave Desert				Y	Y	A

Table Key, Table 463

California Exotic Pest Plan Council (CEPPC) List Categories

List A: Most Invasive Wildland Pest Plants; documented as aggressive invaders that displace natives and disrupt natural habitats. Includes two sub-lists; List A-1: Widespread pests that are invasive in more than 3 Jepson regions, and List A-2: Regional pests invasive in 3 or fewer Jepson regions

List B: Wildland Pest Plants of Lesser Invasiveness; invasive pest plants that spread less rapidly and cause a lesser degree of habitat disruption; may be widespread or regional.

Red Alert: Pest plants with potential to spread explosively; infestation currently small or localized. If found, alert Cal EPPC, County Agricultural Commissioner or California Department of Food and Agriculture.

Need More Information: Plants for which current information does not adequately describe nature of threat to wildlands, distribution or invasiveness. Further information is requested from knowledgeable observers.

Annual Grasses: A preliminary list of annual grasses, abundant and widespread in California, that pose significant threats to wildlands. Information is requested to support further definition of this category in next list edition.

Considered but Not Listed: Plants that, after review of status, do not appear to pose a significant threat to wildlands

California Dept. of Food and Agriculture Pest Ratings

All weeds on California's 130 plus noxious weed list have a rating. The overall rating system is NOT based on how bad a weed is—all weeds are considered "bad"—but rather on overall distribution throughout the state. Ratings and formal definitions by the CDFA are:

A=rated weeds are normally limited in distribution throughout the state. Eradication, containment, rejection or other holding action at the state-county level. Quarantine interceptions to be rejected or threat at any point in the state.

B=rated weeds are more widespread. Eradication, containment, control or other holding action at the discretion of the commissioner. State endorsed holding action and eradication only when found in a nursery.

C=rated weeds are generally widespread throughout the state. Action to retard spread outside of nurseries at the discretion of the commissioner. Reject only when found in a cropseed for planting or at the discretion of the commissioner.

Q=rated species are treated as temporary "A" weeds. Denoting action outside nurseries at the state-county level pending determination of permanent rating.

D=rated weeds are organisms considered to be of little or no economic importance. No action. Anything not rated as "A", "B", "C", or "Q" is given a "D" rating.

Forest Codes

ANF=Angeles National Forest;

CNF=Cleveland National Forest;

LPNF=Los Padres National Forest;

SBNF=San Bernardino National Forest.

Y= Present on forest (and estimated number of acres if provided).

*= Forest is currently treating, in process of treating or has treated in past.

A= adjacent or near Forest, reasonable to expect invasion on Forest lands within next 5 years.

?= plants are adjacent or near and highly likely to be present but not documented.

#= plant added to CDFA noxious weed list 8/2003, pest rating not finalized but "C" rating expected.

Numerical figures= approximate present acreage known,

Numerical figures+=approximate present acreage and more

Distributions by geographic subdivisions per the Jepson Manual

Ca=California
 CA-FP=California Floristic Province
 CCo=Central Coast
 CW=Central Western California
 D=Deserts
 DSon=Sonoran Desert
 PR=Peninsular Ranges

SCo=South Coast
 SCoRI=Inner South Coast Ranges
 SCoRo=Outer South Coast Ranges
 SnGb=San Gabriel Mountains,
 SW=Southwestern California
 WTR=Western Transverse Ranges
 GV=Great Central Valley-and

SnJV-San Joaquin Valley, were not included even though a small portion of the LPNF occurs within this subdivision. Most of these subdivisions do not reflect what is on the LPNF. The LPNF has an active invasive plants program and on the ground knowledge was utilized instead.

This table was created using the California Exotic Pest Plant Council List: Exotic Pest Plants of Greatest Ecological Concern in California (CalEPPC 1999) as a template. From that list, only those plants within Jepson subdivisions of the Southern California National Forests Plan Revision planning area were included. The Southern California Mountains and Foothill Assessment (Stephenson and Calcarone 1999) boundary was used as the planning area boundary. Plants are listed, in order of most invasive categories as per Cal EPPC list (List A-1 and A-2 were combined) then alphabetically. "Potential pests" from list by Hrusa, Ertter, Sanders, Leppig, and Dean (Madrono 2002) not in Jepson within our planning area were included along with invasive plants on Forest Botanist's list of concern or that Forest's are currently eradicating. Ratings of plants designated as "noxious weeds" by the California Department of Food and Agriculture were added in a separate column. On 8/15/2003 the SBNF received information that the "noxious weed" list had been amended to include 11 species that we were tracking in this table and the ratings were added. A combination of Forest biologists and botanists, District biologists and personnel working in USFS invasive species programs provided information on known occurrences by Forest. The list was finalized on 08/16/2003. At this time, all species not known to occur or to be adjacent to Forests were removed from the table. The original table showing all species considered is available in the project file.

Table 544. Numbers of invasive non-native plant species within the planning area by invasive categories and by forest.

Weed Category	Number of species by forest				Total number of species, 4 Southern CA NFs *
	ANF	CNF	LPNF	SBNF	
NOXIOUS WEEDS-CDFA					
Noxious (A, B, and C combined)	11	20	23	15	28
Noxious A	1	3	2	2	3
Noxious B	0	3	4	0	5
Noxious C	10	14	17	13	20
CalEPPC LIST					
Most invasive – Lists A1&A2	11	19	29	20	35
Lesser invasives - List B	7	14	12	18	24
Red Alert: Potential to spread explosively	1	3	2	2	3
Need more info	4	9	10	14	22
Annual grasses that pose significant threats	2	6	5	5	6
Considered but not listed	2	6	4	9	9
Total - CalEPPC list					99

*some species occur on more than one national forest

Table 545. Approximate acres of major ground disturbance currently present.

Disturbance Indicators (in acres)	ANF	CNF	LPNF	SBNF	Total	Percent of land base disturbed
Veg/Fuel treatments (approximate)	3,375	3,375	4,000	7,000	17,750	0.5
Grazed acres suitable	23,273	44,259	398,652	119,365	585,549	17
Roads maintained	883	408	1,129	1,198	3,618	0.1
Active mining operations	1,098	122	159	623	2,002	0.06
Wildfire-approximate over last 3 years	112,900	80,000	40,000	92,000	324,900	9
Special use permits	20,946	4,592	6,169	5,314	37,021	1
Total disturbed acres	162,475	132,756	450,109	225,500	970,840	28
Total Forest acreage FY05	662,983	420,877	1,781,380	665,753	3,530,993	
Total percent disturbed By Forest	25	32	25	34		

Table 546. Estimated Percent of Southern California National Forest Acres Susceptible to Invasive Species

Proposed Activities	Alt 1	Alt 2	Alt 3	Alt 4	Alt 4a	Alt 5	Alt 6
Vegetation, Fuel Treatments							
Mortality							
Annually	1,500	1,500	1,500	1,500	1,500	1,500	1,500
15 years	22,500	22,500	22,500	22,500	22,500	22,500	22,500
Percent all Forests over 15 years	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Defense/threat zones							
Annually	13,000	13,000	13,000	13,000	13,000	13,000	15,688
15 years	195,000	195,000	195,000	195,000	195,000	195,000	235,320
Percent all Forests over 15 years	5.52	5.52	5.52	5.52	5.52	5.52	6.66
Fuelbreak Maintenance							
Annually	3,500	3,500	3,500	3,500	3,500	3,500	750
15 years	52,500	52,500	52,500	52,500	52,500	52,500	11,250
Percent all Forests over 15 years	1.48	1.48	1.48	1.48	1.48	1.48	0.32
Fuelbreak Construction							
Annually	1,350	1,350	1,350	1,350	1,350	1,350	250
15 years	20,250	20,250	20,250	20,250	20,250	20,250	3,750
Percent all Forests over 15 years	0.57	0.57	0.57	0.57	0.57	0.57	0.11
Thinning							
Annually	1,200	1,200	1,200	1,200	1,200	1,200	1,200
15 years	18,000	18,000	18,000	18,000	18,000	18,000	18,000
Percent all Forests over 15 years	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Prescribed Fire * Does not account for acres burned in "Fire Use" strategy on the LPNF under Alternative 6							
Annually	19,000	19,000	19,000	19,000	19,000	19,000	11,000
15 years	285,000	285,000	285,000	285,000	285,000	285,000	165,000 *
Percent all Forests over 15 years	8.07	8.07	8.07	8.07	8.07	8.07	4.67

Livestock Grazing							
Suitable acres annually	585,549	450,082	412,277	448,889	448,956	542,877	87,319
Percent all Forests over 15 years	16.58	12.75	11.68	12.71	12.71	15.37	2.47
National Forest System Roads	14,225	14,100	13,945	14,230	11,865	14,545	9,345
Percent all Forests over 15 years	0.40	0.40	0.39	0.40	0.34	0.41	0.26
Unclassified road acres potentially added to National Forest System next 15 years	4,240	4,185	3,320	4,285	2,830	4,805	2,370
Percent all Forests over 15 years	0.12	0.12	0.09	0.12	0.08	0.14	0.07
Total all roads, all Forests over 15 years	0.52	0.52	0.49	0.52	0.42	0.55	0.33
Estimated total percent of all Forests acreage susceptible over life of Plan due to activities	34%	30%	29%	30%	30%	33%	16%

Table 547. Percent of National Forest System Lands Less Susceptible to Invasive Species by Alternative

Low Impact Land Use Zones and new Recommended Special Area Designations	Alt 1	Alt 2	Alt 3	Alt 4	Alt 4a	Alt 5	Alt 6
Back Country Motorized Use Restricted	0	0	0	0	460,584	0	0
Back Country Non-Motorized	505,948	398,261	823,497	437,169	820,690	0	1,067,583
Critical Biological	3,691	11,502	12,816	11,629	10,094	1,440	14,721
Experimental Forest	15,429	14,145	14,145	15,429	15,498	15,429	15,429
Recommended Wilderness	0	178,605	468,620	80,511	86,857	0	581,656
Recommended candidate Research Natural Areas	9,037	28,798	29,876	11,141	18,731	2,220	32,100
Recommended Special Interest Areas	0	34,809	68,655	24,521	53,289	4,812	77,740
Total acres within low impact zones and recommended Special Area Designations- all Forests	534,105	666,120	1,417,609	580,400	1,465,743	23,901	1,789,229
Total percent of all Forest lands less susceptible over life of Plan due to land use zoning and new Special Area Designations	15%	19%	40%	16%	42%	0.7%	51%

Table 562. Relative Rating of Alternatives to Susceptibility of Invasive Species Spread

Susceptibility Rating Variables	Alt 1	Alt 2	Alt 3	Alt 4	Alt 4a	Alt 5	Alt 6
Susceptible acres due to proposed activities (Table 546)	5	4	3	4	4	5	1
Susceptible acres due to motorized zoning (Table 546)	4	3	2	4	2	5	1
Reduced susceptibility due to low impact land use zoning and recommended Special Area designation (Table 547)	4	4	2	4	2	5	1
Susceptibility due to lack of southern California Forests Weed Management Strategy (Part 3, Appendix M), strategic goal, and revised Standards	3	1	1	1	1	1	1
Susceptibility due to emphasis level of integrated conservation strategy *	3	3	1	4	2	5	1
Overall Susceptibility Ranking for invasive species spread by alternative (1-lowest, 5-highest)	3.8	3.0	1.8	3.4	2.2	4.2	1

*Alternative 1 has a high level of emphasis on invasive species management along with a large number of invasive species standards within the Southern California Conservation Strategy.

Table 359. Acres Managed for Motorized Uses as Defined by Land Use Zone

Forest	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 4a
ANF	443,202	402,467	273,642	399,444	564,189	202,833	262,718
CNF	260,097	234,473	163,721	236,093	345,263	92,686	120,170
LPNF	759,404	766,855	348,030	776,652	920,703	157,140	392,200
SBNF	394,735	376,199	278,033	409,223	535,390	172,458	229,193
TOTAL	1,857,438	1,779,994	1,063,426	1,821,412	2,365,545	625,117	1,004,281
Percent of NFS land in BC, DAI, and EF	53%	51%	30%	52%	70%	18%	28%

Table 108. Grazing Suitability by Forest by Alternative

	Angeles	Cleveland	Los Padres	San Bernardino	Totals	
# Grazing Areas	7	33	141	26	207	
NFS Capable Area	23,291	47,401	407,736	123,794	602,222	
Alt 1	#	7	33	135	26	201
	Acres	23,273	44,259	398,652	119,365	585,549
Alt 2	#	5	26	116	18	165
	Acres	16,791	41,065	346,554	45,672	450,082
Alt 3	#	5	25	108	18	156
	Acres	16,791	36,120	313,694	45,672	412,277
Alt 4	#	5	26	113	18	162
	Acres	16,791	41,065	345,361	45,672	448,889
Alt 4a	#	5	26	113	18	162
	Acres	16,791	41,132	345,361	45,672	448,956
Alt 5	#	5	33	125	26	189
	Acres	16,791	42,646	364,959	118,481	542,877
Alt 6	#	5	22	94	18	139
	Acres	2,030	15,061	54,462	15,766	87,319

Table 550. Acres Expected to be Grazed by Key Vegetation Types

Alternative	Coastal Sage	% reduced from Alt. 1	Meadow/grassland	% reduced from Alt. 1	Oak woodlands	% reduced from Alt. 1	Riparian	% reduced from Alt. 1
1	92,960	0	28,866	0	67,266	0	2,930	0
2	67,959	27	26,805	7	61,232	9	1,703	42
3	63,844	31	24,221	16	57,486	15	1,626	45
4	67,747	27	26,639	8	60,557	10	1,681	43
4a	67,747	27	26,639	8	60,557	10	1,681	43
5	81,933	12	28,632	1	66,137	2	2,648	10
6	62,364	33	24,291	16	53,990	20	1,614	45

Acres available for livestock grazing in coastal sage scrub, meadow/grasslands, oak woodlands and riparian areas. Total acres of potential grazing are shown for each alternative including the percent reduction in acres from alternative 1.

Table 308. Acreage Suitable for Consideration of Non-Recreation Special Uses

Forest	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Angeles	443,201	402,467	273,643	415,800	564,189	217,772	300,012
Cleveland	260,096	234,472	163,721	236,093	345,354	101,794	170,526
Los Padres	759,404	766,855	348,030	776,651	920,702	182,600	712,084
San Bernardino	394,735	376,198	278,034	409,222	535,391	200,949	266,746
Total	1,857,436	1,779,992	1,063,428	1,837,766	2,365,636	703,115	1,449,368

Table 304. Wilderness Acres (Existing and Recommended) by Alternative

Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
1,148,456	1,327,061	1,617,076	1,228,967	1,148,456	1,730,112	1,235,354

Table 318. Cleveland National Forest Candidate Research Natural Areas Recommended By Alternative

cRNA Name	Acres	Primary Vegetation Type	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
San Diego River	5,965	Inland coastal sage scrub	N	5,965	5,965	N	N	5,965	N*
Viejas Mountain	3,182	Chamise chaparral	N	3,182	3,182	N	N	3,182	N*
Guatay Mountain	1,337	Tecate cypress	N	1,337	1,337	N	N	1,337	N*
Pleasants Peak	661	Knobcone pine, serpentine vegetation	N	N	661	N	N	661	N

*San Diego River, Viejas Mountain, and Guatay Mountain candidate RNAs would be evaluated further and a decision made within 3 years under Alternative 4a.

Table 319. Los Padres National Forest Candidate Research Natural Areas Recommended By Alternative

cRNA Name	Acres	Primary Vegetation Type	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Big Pine Mountain	3,258	Southern California mixed conifer forest	3,258	3,258	3,258	3,258	N	3,258	3,258
Cobblestone Mountain	2,224	Bigcone Douglas-fir	N	N	N	N	N	2,224	N
White Mountain	2,104	Bigcone Douglas-fir	N	2,104	2,104	2,104	N	2,104	2,104
Sawmill Mountain	3,451	Jeffrey pine forest	3,451	3,451	3,451	3,451	N	3,451	3,451
Ventana Cones	2,220	Santa Lucia fir/canyon live oak forest	2,220	2,220	2,220	2,220	2,220	2,220	2,220
Valley Oak	108	Valley oak woodland	108	108	108	108	N	108	108

Table 320. San Bernardino National Forest Candidate Research Natural Areas Recommended By Alternative

cRNA Name	Acres	Primary Vegetation Type	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Cleghorn Canyon	1,662	Western sycamore-alder riparian forest	N	1,662	1,662	N	N	1,662	1,662
Arrastre Flat	1,451	Pebble plains	N	1,451	1,451	N	N	1,451	1,451
Broom Flat	417	Singleleaf pinyon/California juniper woodland	N	N	417	N	N	417	417
Wildhorse Meadow	1,255	Wet meadow vegetation	N	1,255	1,255	N	N	1,255	1,255
Blackhawk*	2,805	Carbonate plants	N	2,805	2,805	N	N	2,805	2,805

*1,561 acres are on NFS land; the balance is BLM land.

Table 333. Comparison of Alternative Acres by Land Use Zone

Alternative 1

	ANF	CNF	LPNF	SBNF	Grand Total
BC	270,255	203,839	720,079	328,029	1,522,201
BCNM	119,947	84,048	161,298	140,655	505,948
CBZ	2,481	1,210	0	0	3,691
EF	15,429	0	0	0	15,429
EW	81,924	75,523	860,678	130,362	1,148,487
DAI	172,947	56,258	39,325	66,706	335,236
Grand Total	662,983	420,877	1,781,380	665,753	3,530,993

Alternative 2

	ANF	CNF	LPNF	SBNF	Grand Total
BC	308,914	191,066	723,119	313,580	1,536,680
BCNM	80,009	88,466	91,484	138,303	398,261
CBZ	3,534	6,001	0	1,967	11,502
EF	14,145	0	0	0	14,145
EW	81,924	75,523	860,678	130,362	1,148,487
RW	80,904	16,415	62,363	18,923	178,605
DAI	93,553	43,407	43,736	62,619	243,314
Grand Total	662,983	420,877	1,781,380	665,753	3,530,993

Alternative 3

	ANF	CNF	LPNF	SBNF	Grand Total
BC	181,047	119,903	301,139	213,978	816,066
BCNM	180,392	94,871	428,064	120,169	823,497
CBZ	5,247	4,922	798	1,848	12,816
EF	14,145	0	0	0	14,145
EW	81,924	75,523	860,678	130,362	1,148,487
RW	107,632	81,840	143,809	135,339	468,620
DAI	92,596	43,818	46,891	64,056	247,362
Grand Total	662,983	420,877	1,781,380	665,753	3,530,993

Alternative 4

	ANF	CNF	LPNF	SBNF	Grand Total
BC	321,671	192,307	733,086	346,604	1,593,668
BCNM	133,715	102,775	97,858	102,820	437,169
CBZ	3,793	6,001	0	1,834	11,629
EF	15,429	0	0	0	15,429
EW	81,924	75,523	860,678	130,362	1,148,487
RW	12,321	485	46,192	21,514	80,511
DAI	94,129	43,786	43,566	62,619	244,099
Grand Total	662,983	420,877	1,781,380	665,753	3,530,993

Alternative 4a

	ANF	CNF	LPNF	SBNF	Grand Total
BC	161,392	77,064	332,050	169,786	740,292
BCMUR	52,791	50,356	319,884	37,553	460,584
BCNM	248,399	161,320	171,035	239,936	820,690
CBZ	3,920	2,131	1,762	2,281	10,094
DAI	85,828	43,107	60,150	59,408	248,493
EF	15,498	0	0	0	15,498
EW	81,924	75,523	860,678	130,362	1,148,487
RW	13,231	11,377	35,821	26,428	86,857
Grand Total	662,983	420,878	1,781,380	665,754	3,530,995

Alternative 5

	ANF	CNF	LPNF	SBNF	Grand Total
BC	469,459	301,481	881,722	472,471	2,125,133
CBZ	1,440	0	0	0	1,440
EF	15,429	0	0	0	15,429
EW	81,924	75,523	860,678	130,362	1,148,487
DAI	94,730	43,873	38,980	62,919	240,503
Grand Total	662,983	420,877	1,781,380	665,753	3,530,993

Alternative 6

	ANF	CNF	LPNF	SBNF	Grand Total
BC	123,063	57,578	138,153	135,445	454,240
BCNM	198,268	168,887	426,295	274,133	1,067,583
CBZ	4,729	6,715	852	2,426	14,721
EF	15,429	0	0	0	15,429
EW	81,924	75,523	860,678	130,362	1,148,487
RW	144,861	67,958	310,955	57,883	581,656
DAI	94,709	44,216	44,447	65,504	248,876
Grand Total	662,983	420,877	1,781,380	665,753	3,530,993

Integrated Invasive Animal and Plant Control on the National Forests of Southern California 2003

The four southern California national forests have been active in the removal of invasive animal and plant species for a number of years. A majority of this work is performed in locations to restore habitat for threatened, endangered, and sensitive species; however, work is also completed as necessary and as opportunities arise. The information below provides examples of the types of invasive species work completed and planned by the national forests between the years 2002 and 2003. All national forests currently have active programs for the removal of invasive animal and plant species.

Angeles National Forest- Treated one mile of stream to remove goldfish, mosquitofish, green sunfish, and crayfish. Treatment was scheduled for fiscal year 2004 to remove crayfish, green sunfish, red shiners, and bullfrogs. A public education program was developed for implementation in fiscal year 2004. The funding level for fiscal year 2002 work was \$21,000. Maintenance of the 2002 work was \$5,000 for 2003 and out-years. They also treated five miles of stream for arundo and were active in the Los Angeles County Weed Management Area. The funding level for this program in fiscal year 2003 was \$200,000 (mostly from collection agreements).

Cleveland National Forest- Treated two miles of stream and 120 acres of uplands for bullfrogs, nonnative fish, and brown-headed cowbirds. The funding level for this program in fiscal year 2003 was \$20,000. The Cleveland National Forest had a Noxious Weed Management Strategy that identified specific actions and projects needed to prevent, control and eradicate invasive plants. They treated two miles of stream and two acres of uplands for tamarisk, artichoke thistle, and Spanish broom. An environmental analysis for larger scale projects addressing the removal of large infestations of arundo, tamarisk, and castor bean was underway. They were active in the San Diego County Weed Management Area. The funding level for this program in fiscal year 2003 was \$10,000.

Los Padres National Forest- Treated approximately five acres of ponds and streams for bullfrogs. Educational talks and pamphlets were also developed. The funding level for this program in fiscal year 2003 was approximately \$2,000. The Los Padres National Forest had a Noxious Weed Management Strategy that identified specific actions and projects needed to prevent, control and eradicate invasive plants. They treated 20 miles of stream and 300 acres of uplands for tamarisk, arundo, dalmatian toadflax, Italian thistle, French broom, pampas grass, Cape ivy, yellow star-thistle, and purple star-thistle. They were active in the Big Sur, Kern County, Santa Barbara, and San Luis Obispo County Weed Management Areas. A brochure on nonnative plants that invade riparian areas was being created. The funding level for this program in fiscal year 2003 was \$2,200.

San Bernardino National Forest- Worked with county animal control to reduce the impact of feral dogs in the Nelson's big horn sheep herd in the San Bernardino Mountains. Feral animals were also affecting native species in the San Jacinto Mountains. They installed signs at various locations to discourage dumping of cats and dogs on the national forest. The funding level for this program in fiscal year 2003 was \$3,000. They treated approximately 25 acres of stream and 15 acres of uplands for arundo, tamarisk, dalmatian toad flax, Spanish broom, sweet clover, and perennial sweet pea. The funding level for fiscal year 2003 was \$12,000. The national forest had a Memorandum of Understanding with the Mohave Weed Management Area. An educational brochure with color photos of invasive plants known to occur in recreational tracts was completed to give to permit holders. Interpretive programs on the effects of invasive species were presented at the Big Bear Discovery Center.

- **All forests newsletter-** The southern California Visitor newsletter was available to the public for free at Forest, District and Interpretive Center offices across the southern California national forests. It informed visitors to keep nature in balance, not introduce nonnative plants or release unwanted pets, help control noxious weeds in wildlands, and to use weed free feed.

Appendix D. Inventoried Roadless Areas (IRAs)

Introduction and Evaluation Process Summary

Roadless areas refer to substantially natural landscapes without constructed and maintained roads. Some improvements and past activities are acceptable within roadless areas. Inventoried roadless areas (IRAs) are identified in a set of maps contained in the Forest Service Roadless Area Conservation Final Environmental Impact Statement (FEIS), Volume 2, November 2000. These areas may contain important environmental values that warrant protection and are, as a general rule, managed to preserve their roadless characteristics. In the past, roadless areas were evaluated as potential additions to the National Wilderness Preservation System. Roadless areas have maintained their ecological and social values, and are important both locally and nationally. Recognition of the values of roadless areas is increasing as our population continues to grow and demand for outdoor recreation and other uses of the national forests rises. These unroaded and undeveloped areas provide the national forests with opportunities for potential wilderness, as well as non-motorized recreation, commodities and amenities.

The original forest plans evaluated Roadless Area Review and Evaluation (RARE II) data from the mid-1980s and recommended wilderness designation for some areas. Most areas were left in a roadless, non-motorized use status. This revision of forest plans analyzes a new and more complete land inventory of inventoried roadless areas as well as other areas identified by the public during scoping. These inventoried roadless areas are evaluated by alternative to determine which areas would be recommended to Congress for wilderness designation and which areas would be allocated to an alternative land use. There were 118 roadless areas inventoried within the southern California national forests for the forest plan revisions, totaling approximately 1,045,281 acres, which is approximately 32 percent of the total National Forest System lands or 47 percent of the total non-wilderness National Forest System lands here.

Wilderness evaluation of the roadless inventory of the national forests, as well as of other undeveloped areas proposed by the public, is based on criteria of capability, availability, and need:

- **Capability:** The capability of potential wilderness is the degree to which it contains the basic characteristics that qualify it for wilderness designation. Factors examined include environment and special features, challenge, outdoor recreation opportunities, and manageability.
- **Availability:** An area's availability is determined by comparing wilderness values in that location to the value of and need for other resource uses and production from the same land area.
- **Need:** The need for designation of new wilderness is based on comparing the value of a potential area to existing wilderness in nearby locations as well as to the National Wilderness Preservation System as a whole. This analysis considers demand for additional wilderness recreation opportunities on the national forests. It also looks at the need to give certain vegetation types the protection that wilderness designation would afford.

Using the above criteria, each area was rated high, moderate, or low. The analysis resulted in identification of 23 roadless and other undeveloped areas within the Angeles National Forest, 21 roadless and other undeveloped areas within the Cleveland National Forest, 51 roadless areas within the Los Padres National Forest, and 23 roadless areas within the San Bernardino National Forest. The following tables list the names, acreage and ratings of all the areas evaluated:

Table 343. Angeles National Forest - Inventoried Roadless Areas evaluated

Inventoried Roadless Area	Recommended by Public	Acres	Capability	Availability	Need
Arroyo Seco		4,674	Moderate	Low	Low
Cucamonga A	Yes	1,221	High	High	Moderate
Fish Canyon		29,872	Moderate	Moderate	Moderate
Magic Mountain	Yes	15,517	Low	Low	Low
Pleasant View	Yes	26,332	High	Moderate	Low
Red Mountain	Yes	8,030	Moderate	Moderate	Low
Salt Creek	Yes	11,004	Moderate	Moderate	Low
San Dimas		7,149	Low	Low	Low
San Gabriel Add		2,506	Low	High	Low
Sespe-Frazier*		4,200	Moderate	Moderate	Moderate
Sheep Mountain	Yes	1,441	Low	Moderate	Low
Sheep Mountain	Yes	613	Low	Moderate	Low
Sheep Mountain		18	High	High	Low
Sheep Mountain	Yes	16,240	High	High	Moderate
Sheep Mountain		2,641	Low	Moderate	Low
Strawberry Peak	Yes	7,193	Low	Low	Low
Tule	Yes	9,855	Low	Low	Low
West Fork	Yes	1,156	High	High	Low
Westfork	Yes	4,385	High	High	Low

*Note: A recent adjustment to the administrative boundary has been made within the GIS system. The official IRA acres for the ANF Sespe-Frazier were calculated before the adjustment, and the official Recommended Wilderness acres for the ANF Sespe-Frazier were calculated after the adjustment; hence the discrepancy of 21 official acres.

Table 344. Angeles National Forest - Publicly proposed other undeveloped areas evaluated

Other Undeveloped Area	Recommended By Public	Acres Alt. 6	Capability	Availability	Need
Condor Peak	Yes	13,803	Low	Low	Low
Pleasant View - Non IRA	Yes	**2,427	Moderate	Moderate	Low
Santa Clarita Canyons	Yes	3,661	Low	Low	Moderate
Silver Mountain (West Fork)	Yes	**8,285	Moderate	Moderate	Moderate

** Value averaged across alternatives

Table 345. Cleveland National Forest - Inventoried Roadless Areas evaluated

Inventoried Roadless Area	Recommended by Public	Acres	Capability	Availability	Need
Barker Valley	Yes	11,912	Moderate	Moderate	Moderate
Caliente	Yes	5,910	High	High	Moderate
Coldwater	Yes	8,370	Low	Low	Low
Cutca Valley	Yes	8,619	High	Moderate	Low
Cutca Valley	Yes	5,891	Moderate	Low	Low
Eagle Peak	Yes	6,460	Moderate	Moderate	Moderate
Ladd	Yes	5,287	Low	Low	Low
No Name	Yes	4,887	Low	Moderate	Low
Pine Creek		485	High	High	High
San Mateo Canyon		65	Low	Low	Low

Inventoried Roadless Area	Recommended by Public	Acres	Capability	Availability	Need
Sill Hill	Yes	5,279	Moderate	Low	Low
Trabuco		23,320	High	Moderate	Moderate
Wildhorse/Morrell (except Sections 21/22)	Yes	965	Low	Low	Low
Wildhorse/Morrell (Sections 21/22)	Yes	515	Low	Low	Low

Table 346. Cleveland National Forest - Publicly proposed other undeveloped areas evaluated

Other Undeveloped Area	Recommended By Public	Acres	Capability	Availability	Need
Cedar Creek	Yes	**2,800	Low	Low	Moderate
Hauser Mountain	Yes	1,274	High	Moderate	Moderate
Hauser South (expansion)	Yes	**3,600	High	Moderate	Moderate
Sitton Peak	Yes	1,029	Low	Low	Low
Sitton Peak Addition	Yes	1,206	Low	Low	Low
Upper San Diego River	Yes	1,028	High	Moderate	Moderate
Upper San Diego River Gorge	Yes	**4,905	High	Moderate	Moderate

** Value averaged across alternatives

Table 347. Los Padres National Forest - Inventoried Roadless Areas evaluated

Inventoried Roadless Area	Recommended by Public	Acres	Capability	Availability	Need
Antimony	Yes	40,513	Low	Low	Low
Bear Canyon		*1,946	Low	Low	Low
Bear Mountain		1,045	Low	Low	Low
Big Rocks		11,841	Low	Low	Low
Black Butte	Yes	*5,172	Low	Low	Low
Black Mountain	Yes	16,830	Low	Low	Low
Camuesa		8,191	Low	Low	Low
Chalk Peak		*1,442	Low	Low	Low
Condor Point	Yes	14,868	Low	Low	Low
Cuyama	Yes	19,534	Low	Low	Low
De La Guerra		5,417	Low	Low	Low
Diablo	Yes	9,407	Moderate	Low	Low
Diablo	Yes	10,195	Low	Low	Low
Dry Lakes	Yes	7,576	Moderate	Moderate	Low
Dry Lakes	Yes	9,463	Low	Low	Low
Fox Mountain	Yes	11,174	Moderate	Low	Low
Fox Mountain	Yes	40,908	Low	Low	Low
Garcia Mountain	Yes	2,467	Moderate	Moderate	Low
Garcia Mountain	Yes	5,381	Low	Low	Low
Horseshoe Springs		14,097	Low	Low	Low
Juncal	Yes	12,280	Low	Low	Low
La Brea	Yes	5,521	Moderate	Low	Low
La Brea		8,453	Low	Low	Low

Inventoried Roadless Area	Recommended by Public	Acres	Capability	Availability	Need
La Panza		4,958	Low	Low	Low
Little Pine	Yes	1,290	Low	Low	Low
Los Machos Hills		10,984	Low	Low	Low
Machesna Mountain (includes part of Los Pelados)	Yes	4,883	Moderate	Moderate	Low
Machesna Mountain	Yes	7,362	Low	Low	Low
Madulce Buckhorn	Yes	7,961	High	Moderate	Low
Madulce Buckhorn	Yes	6,221	Moderate	Moderate	Low
Manzana	Yes	138	Low	Low	Low
Matilija	Yes	3,175	Moderate	Moderate	Low
Matilija	Yes	1,740	Low	Low	Low
Miranda Pine		13,308	Low	Low	Low
Mono	Yes	16,236	High	High	Mod
Mono	Yes	11,796	Moderate	Moderate	Moderate
Nordhoff		12,024	Low	Low	Low
Quatal		7,248	Low	Low	Low
Santa Cruz	Yes	14,501	Moderate	Moderate	Low
Santa Cruz	Yes	6,620	Moderate	Low	Low
Sawmill-Badlands	Yes	1,514	Moderate	Low	Low
Sawmill-Badlands (includes Chumash Additions NW and SW, and Badlands Apache)	Yes	49,537	Moderate	Moderate	Low
Sespe-Frazier (includes Fishbowls PWA**, Thorn PWA and Stone House PWA)	Yes	14,810	Moderate	Moderate	Low
Sespe-Frazier (includes Sheep Creek)	Yes	59,242	Low	Low	Low
Sespe-Frazier (includes part of Chorro Grande)	Yes	12,893	Low	Moderate	Low
Sespe-Frazier (includes part of Beaver)	Yes	23,944	Low	Low	Low
Spoor Canyon	Yes	13,752	Low	Low	Low
Stanley Mountain		14,267	Low	Low	Low
Tepusquet Peak		5,823	Low	Low	Low
Tequepis		9,086	Low	Low	Low
White Ledge	Yes	18,607	Moderate	Low	Low

* Acres are an estimate; Final acreages will be determined when Big Sur Wilderness Area boundaries are finalized.

**PWA = "Proposed Wilderness Area"

Table 348. Los Padres National Forest - Publicly proposed other undeveloped areas evaluated

Other Undeveloped Area	Recommended By Public	Acres	Capability	Availability	Need
Bear	Yes	1,958	Moderate	Moderate	Low
Beaver	Yes	1,277	Low	Low	Low
Chorro Grande	Yes	1,060	Low	Moderate	Low
Machesna Mountain (Los Pelados)	Yes	2,803	Low	Low	Low

Table 349. San Bernardino National Forest - Inventoried Roadless Areas evaluated

Inventoried Roadless Area	Recommended by Public	Acres	Capability	Availability	Need
Cactus Springs A		21	Low	Low	Low
Cactus Springs B		3,101	Low	Low	Low
Cahuilla Mountain	Yes	6,945	Moderate	Low	Low
Cajon		7,461	Low	Low	Low
Circle Mountain		6,092	Low	Low	Low
City Creek	Yes	9,986	Low	Low	Low
Crystal Creek		6,771	Low	Low	Low
Cucamonga B	Yes	11,918	High	High	Moderate
Cucamonga C	Yes	4,084	Low	Moderate	Low
Deep Creek		23,847	Moderate	Moderate	Low
Granite Peak		447	Low	Low	Low
Heartbreak Ridge		4,450	Moderate	Moderate	Moderate
Hixon Flat		8,086	Low	Low	Low
Horse Creek Ridge	Yes	8,959	Moderate	Low	Low
Mill Peak		7,876	Low	Low	Low
Pyramid Peak A	Yes	14,138	High	Moderate	Moderate
Pyramid Peak B	Yes	7,187	Low	Low	Low
Raywood Flat A	Yes	530	Low	Low	Low
Raywood Flat B	Yes	7,547	Moderate	Moderate	High
Raywood Flat B	Yes	3,312	Moderate	Moderate	Moderate
Rouse Hill		13,733	Low	Low	Low
San Sevaine		6,854	Low	Low	Low
Sugarloaf	Yes	8,196	Moderate	Low	Moderate

Table 350. San Bernardino National Forest - Publicly proposed undeveloped areas evaluated

Other Undeveloped Area	Recommended by Public	Acres	Capability	Availability	Need
Sheep Mountain	Yes	5,197	High	High	High

See "Wilderness Evaluations" on the southern California Forest Plan Revisions website, [www. fs. fed. us/r5/scfpr/read](http://www.fs.fed.us/r5/scfpr/read), for a full description and specific analysis of all areas.

Proposed Wilderness by Alternative

Roadless areas possess important social and ecological values as well as characteristics that are becoming scarce in the rapidly urbanizing landscape of southern California. They provide unique opportunities for non-motorized and motorized trail recreation in a primitive or semi-primitive setting, sources of clean drinking water, and large undisturbed landscapes that offer privacy and solitude. These areas support a diversity of habitats for native plants and animal species, conserve biological diversity and provide opportunities for study and education. The roadless areas in the Angeles, Cleveland, Los Padres and San Bernardino National Forests provide these values to differing degrees. Some areas have relatively large, mostly undisturbed environments, while many others are more diverse and have portions that reveal past or current development and in some cases, resource impacts.

Chapter 2 (Comparison of Alternatives, Special Designations) differentiates the alternatives on the basis of recommended wilderness and displays in table 304: Wilderness Acres (Existing and Recommended) by Alternative (page 167) a summary of the total acres of roadless areas recommended for wilderness designation by national forest and alternative. Tables 351: Angeles National Forest Recommended Wilderness by Alternative, 352: Cleveland National Forest Recommended Wilderness by Alternative, 353: Los Padres National Forest Recommended Wilderness by Alternative, and 354: San Bernardino National Forest Recommended Wilderness by Alternative (pages 163 through 168) further detail the number of roadless areas recommended for wilderness designation by national forest, acreage and alternative. Also see the Land Use Zone Maps in each of the four forest's Land Management Plan, Part 2:Strategy. The acreage is based on the findings of the wilderness evaluations combined with the emphasis of each alternative. Acres include any areas being proposed as wilderness, including IRAs, portions of IRAs, or other areas identified by the national forests.

Those roadless areas not recommended for wilderness designation were assigned a land use classification that varied by the emphasis of the alternative. The specific impacts of non-wilderness land use designation are discussed in the Wilderness Evaluations and Chapter 3, Environmental Consequences. Approximately 1,045,281 acres of roadless areas were analyzed in this forest plan. In the selected alternative, 8 percent of the study acres are recommended for wilderness designation (RW); 24 percent are now classified as Back Country (BC), 23 percent as Back Country Motorized Use Restricted (BCMUR), 38 percent as Back Country Non-Motorized (BCNM), less than 1 percent as Critical Biological (CB) and 4 percent as Developed Area Intermix (DAI). The RW designation of roadless area acreage varied in other alternatives from a low of 0 percent in Alternatives 1 and 5 to a high of 43 percent in Alternative 3 and 46 percent in Alternative 6; Alternative 2 was at 16 percent and Alternative 4 was at 7 percent. Similarly, roadless area acreage classified as other land use zones also varied by alternative. Alternative 5 had a very high amount of BC land use classification – 94 percent. Alternatives 1, 2 and 4 had BC classifications in the mid-50 percent range; Alternative 3 had 16 percent and Alternative 4 had 24 percent. The BCNM classification of roadless area acreage generally was in the mid-20 percent to high 30 percent range for all alternatives, except Alternative 5, which had 0 percent. Other land use classifications had minor amounts of RW in all alternatives. The disposition of these inventoried roadless areas by alternative is detailed in tables 537 through 543, pages 169 through 181.

Table 351. Angeles National Forest Recommended Wilderness by Alternative

Name	Alt 1	Acres	Alt 2	Acres	Alt 3	Acres	Alt 4	Acres	Alt 5	Acres	Alt 6	Acres	Alt 4a	Acres
Arroyo Seco	No	0	No	4,502	Yes	4,502	No	0	No	0	No	0	No	0
Condor Peak	No	0	No	0	No	0	No	0	No	0	Yes	13,803	No	0
Cucamonga A	No	0	Yes	1,221	Yes	1,221	No	0	No	0	No	0	Yes	448
Fish Canyon	No	0	Yes	29,872	Yes	29,872	No	0	No	0	Yes	30,942	No	0
Magic Mountain	No	0	No	14,947	Yes	14,947	No	0	No	0	Yes	13,794	No	0
Pleasant View	No	0	Yes	26,332	Yes	26,332	No	0	No	0	Yes	27,616	No	0
Red Mountain	No	0	No	0	No	0	No	0	No	0	Yes	7,990	No	0
Santa Clarita Canyons	No	0	No	0	No	0	No	0	No	0	Yes	3,661	No	0
Salt Creek (north)	No	0	No	5,445	Yes	5,445	No	0	No	0	Yes	5,420	No	0
Salt Creek (south)	No	0	Yes	5,653	Yes	5,653	No	0	No	0	Yes	5,593	No	0
Salt Creek / Fish Canyon	No	0	No	0	No	0	No	0	No	0	Yes	2,159	No	0
San Dimas	No	0	Yes	1,285	Yes	1,285	No	0	No	0	No	0	No	0
San Gabriel Add	No	0	No	2,506	Yes	2,506	No	0	No	0	No	0	No	0
Sespe-Frazier*	No	0	Yes	4,221	Yes	4,221	No	0	No	0	No	0	No	0
Sheep Mountain	No	0	No	1,397	Yes	1,397	No	0	No	0	No	0	Yes	1,039
Sheep Mountain addition	No	0	Yes	12,321	Yes	10,251	Yes	12,321	No	0	Yes	10,841	Yes	11,688
Strawberry Peak	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Tule	No	0	No	0	No	0	No	0	No	0	Yes	9,871	No	0
West Fork	No	0	No	0	No	0	No	0	No	0	Yes	13,171	No	0
Totals		0		109,702		107,632		12,321		0		144,861		13,175

*Note: A recent adjustment to the administrative boundary has been made within the GIS system. The official IRA acres for the ANF Sespe-Frazier were calculated before the adjustment, and the official Recommended Wilderness acres for the ANF Sespe-Frazier were calculated after the adjustment; hence the discrepancy of 21 official acres.

Table 352. Cleveland National Forest Recommended Wilderness by Alternative

Name	Alt 1	Acres	Alt 2	Acres	Alt 3	Acres	Alt 4	Acres	Alt 5	Acres	Alt 6	Acres	Alt 4a	Acres
Barker Valley	No	0	No	0	Yes	10,414	No	0	No	0	Yes	10,566	No	0
Caliente	No	0	No	0	Yes	5,851	No	0	No	0	Yes	6,018	No	0
Cedar Creek	No	0	No	0	Yes	2,790	No	0	No	0	Yes	2,934	No	0
Coldwater	No	0	No	0	Yes	8,045	No	0	No	0	Yes	6,738	No	0
Cutca Valley	No	0	Yes	8,619	Yes	8,619	No	0	No	0	Yes	10,668	Yes	8,619
Eagle Peak	No	0	No	0	Yes	6,438	No	0	No	0	Yes	6,077	No	0
Hauser Mountain	No	0	No	0	No	0	No	0	No	0	Yes	1,274	No	0
Ladd	No	0	No	0	No	0	No	0	No	0	Yes	4,925	No	0
No Name	No	0	No	0	No	0	No	0	No	0	Yes	4,607	No	0
Pine Creek	No	0	Yes	485	Yes	485	Yes	485	No	0	No	0	Yes	429
San Mateo Canyon	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Sill Hill	No	0	No	0	Yes	5,290	No	0	No	0	Yes	4,974	No	0
Sitton Peak	No	0	Yes	1,029	Yes	1,029	No	0	No	0	No	0	No	0
Sitton Peak addition	No	0	No	0	Yes	1,206	No	0	No	0	No	0	No	0
South Hauser Mtn.	No	0	No	0	Yes	3,620	No	0	No	0	Yes	3,591	Yes	2,302
Trabuco	No	0	No	0	Yes	21,771	No	0	No	0	No	0	No	0
Upper San Diego River	No	0	Yes	1,028	Yes	1,028	No	0	No	0	No	0	No	0
Upper San Diego River (SD River Gorge)	No	0	Yes	4,738	Yes	4,738	No	0	No	0	Yes	5,071	No	0
Wildhorse (Morrell Canyon)	No	0	Yes	515	Yes	515	No	0	No	0	Yes	515	No	0
Totals		0		16,414		81,839		485		0		67,958		11,350

Table 353. Los Padres National Forest Recommended Wilderness by Alternative

Name	Alt 1	Acres	Alt 2	Acres	Alt 3	Acres	Alt 4	Acres	Alt 5	Acres	Alt 6	Acres	Alt 4a	Acres
Antimony	No	0	No	0	No	0	No	0	No	0	Yes	16,489	No	0
Antimony (San Emigdio)	No	0	No	0	Yes	9,973	No	0	No	0	Yes	15,470	No	0
Antimony (Pleito)	No	0	No	0	No	0	No	0	No	0	Yes	4,963	No	0
Badlands - Apache	No	0	No	0	No	0	No	0	No	0	Yes	13,405	No	0
Bear	No	0	No	0	No	0	No	0	No	0	Yes	1,958	No	0

Name	Alt 1	Acres	Alt 2	Acres	Alt 3	Acres	Alt 4	Acres	Alt 5	Acres	Alt 6	Acres	Alt 4a	Acres
Bear Mountain	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Beaver	No	0	No	0	No	0	No	0	No	0	Yes	3,681	No	0
Big Rocks	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Black Butte	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Black Mountain	No	0	No	0	No	0	No	0	No	0	Yes	12,905	No	0
Camuesa	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Chalk Peak	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Chorro Grande	No	0	No	0	No	0	No	0	No	0	Yes	4,215	No	0
Chumash addition NW	No	0	No	0	No	0	No	0	No	0	Yes	8,967	No	0
Chumash addition SW	No	0	No	0	No	0	No	0	No	0	Yes	2,942	No	0
Chumash-Toad Springs	No	0	Yes	560	Yes	560	Yes	560	No	0	No	0	Yes	560
Condor Point	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Cuyama	No	0	No	0	Yes	12,082	No	0	No	0	Yes	19,460	No	0
De La Guerra	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Diablo	No	0	Yes	2,063	Yes	2,063	Yes	28	No	0	No	0	No	0
Diablo (Agua Caliente)	No	0	Yes	17,567	Yes	17,567	No	0	No	0	Yes	18,325	No	0
Dry Lakes	No	0	No	0	Yes	8,794	No	0	No	0	Yes	13,289	No	0
Fox Mountain	No	0	No	0	Yes	11,181	No	0	No	0	Yes	51,675	No	0
Garcia Mountain	No	0	Yes	1,348	Yes	1,348	Yes	1,348	No	0	Yes	2,121	No	0
Garcia Mountain (Trout Creek)	No	0	Yes	118	Yes	118	Yes	118	No	0	Yes	1,583	No	0
Horseshoe Springs	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Juncal	No	0	No	0	No	0	No	0	No	0	Yes	10,028	No	0
La Brea	No	0	No	0	Yes	3,867	Yes	3,430	No	0	No	0	No	0
La Panza	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Little Pine	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Los Machos Hills	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Machesna Mountain	No	0	Yes	436	Yes	991	Yes	436	No	0	Yes	4	No	0
Machesna Mountain (Los Pelados)	No	0	Yes	4,167	Yes	4,949	Yes	4,167	No	0	Yes	7,752	No	0
Madulce - Buckhorn	No	0	Yes	31	Yes	31	Yes	31	No	0	No	0	Yes	15

Name	Alt 1	Acres	Alt 2	Acres	Alt 3	Acres	Alt 4	Acres	Alt 5	Acres	Alt 6	Acres	Alt 4a	Acres
Madulce - Buckhorn (Indian Creek)	No	0	Yes	4,955	Yes	4,955	Yes	4,955	No	0	Yes	13,846	Yes	5,345
Manzana	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Matilija	No	0	Yes	3,101	Yes	3,101	Yes	3,101	No	0	No	0	Yes	2,617
Matilija (Dry Lakes)	No	0	Yes	12	Yes	12	Yes	12	No	0	Yes	12	No	0
Miranda Pine	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Mono	No	0	Yes	28,004	Yes	28,005	Yes	28,005	No	0	Yes	27,485	Yes	26,992
Nordhoff	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Quatal	No	0	No	0	Yes	3,943	No	0	No	0	No	0	No	0
Santa Cruz	No	0	No	0	Yes	20,897	No	0	No	0	Yes	18,875	No	0
Sawmill - Badlands	No	0	No	0	Yes	341	No	0	No	0	No	0	No	0
Sawmill - Badlands (Able)	No	0	No	0	Yes	705	No	0	No	0	Yes	1,702	No	0
Sawmill - Badlands (Antimony)	No	0	No	0	Yes	1,011	No	0	No	0	Yes	1,399	No	0
Sawmill - Badlands (Wagon Wheel Springs)	No	0	No	0	Yes	4,219	No	0	No	0	Yes	5,943	No	0
Sespe-Frazier-MPRD	No	0	No	0	Yes	44	No	0	No	0	No	0	No	0
Sespe-Frazier-MPRD (Fishbowls PWA)	No	0	No	0	Yes	1,039	No	0	No	0	Yes	1,075	No	0
Sespe-Frazier-MPRD (Thorn PWA)	No	0	No	0	Yes	2,693	No	0	No	0	Yes	2,693	No	0
Sespe-Frazier-ORD portion	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Sheep Creek	No	0	No	0	No	0	No	0	No	0	Yes	6,920	No	0
Spoor Canyon	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Stanley Mountain	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Stone House PWA	No	0	No	0	No	0	No	0	No	0	Yes	6,426	No	0
Tepusquet Peak	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Tequepis	No	0	No	0	No	0	No	0	No	0	No	0	No	0
White Ledge	No	0	No	0	No	0	No	0	No	0	Yes	15,537	No	0
Totals		0		62,362		144,489		46,191		0		311,145		35,529

Table 354. San Bernardino National Forest Recommended Wilderness by Alternative

Name	Alt 1	Acres	Alt 2	Acres	Alt 3	Acres	Alt 4	Acres	Alt 5	Acres	Alt 6	Acres	Alt 4a	Acres
Cactus Springs A	No	0	No	0	Yes	21	No	0	No	0	No	0	Yes	13
Cactus Springs B	No	0	No	0	Yes	2,614	No	0	No	0	No	0	No	0
Cahuilla Mountain	No	0	No	0	Yes	6,945	No	0	No	0	Yes	6,661	No	0
Cajon	No	0	No	0	Yes	6,885	No	0	No	0	No	0	No	0
Circle Mountain	No	0	No	0	Yes	5,716	No	0	No	0	No	0	No	0
City Creek	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Crystal Creek	No	0	No	0	Yes	6,708	No	0	No	0	No	0	No	0
Cucamonga (B) Expansion	No	0	Yes	7,925	Yes	7,925	Yes	7,925	No	0	Yes	7,887	Yes	6,516
Cucamonga C	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Deep Creek	No	0	No	0	Yes	21,124	No	0	No	0	No	0	No	0
Granite Peak	No	0	No	0	Yes	447	No	0	No	0	No	0	No	0
Heartbreak Ridge	No	0	No	0	Yes	3,964	No	0	No	0	No	0	Yes	5,143
Hixon Flat	No	0	No	0	Yes	6,828	No	0	No	0	No	0	No	0
Horse Creek Ridge	No	0	No	0	Yes	736	No	0	No	0	Yes	8,882	No	0
Horse Creek Ridge (South Fork)	No	0	No	0	Yes	7,240	No	0	No	0	No	0	No	0
Mill Peak	No	0	No	0	Yes	7,567	No	0	No	0	No	0	No	0
Pyramid Peak A	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Pyramid Peak B	No	0	No	0	Yes	7,361	No	0	No	0	No	0	Yes	49
Pyramid Peak B (San Jacinto)	No	0	No	0	Yes	15,617	No	0	No	0	Yes	15,686	Yes	8,956
Raywood Flat A	No	0	No	0	Yes	530	No	0	No	0	No	0	No	0
Raywood Flat B	No	0	No	0	Yes	3,113	No	0	No	0		8	Yes	1,989
Rouse Hill	No	0	No	0	Yes	10,409	No	0	No	0	No	0	No	0

Name	Alt 1	Acres	Alt 2	Acres	Alt 3	Acres	Alt 4	Acres	Alt 5	Acres	Alt 6	Acres	Alt 4a	Acres
San Gorgonio Expansion (Raywood Flat B)	No	0	Yes	4,541	Yes	4,541	Yes	4,541	No	0	Yes	4,323	Yes	1,951
San Sevaine	No	0	No	0	No	0	No	0	No	0	No	0	No	0
Sheep Mountain (SBNF)	No	0	No	0	No	0	No	0	No	0	Yes	5,196	Yes	1,823
Sugarloaf	No	0	Yes	6,457	Yes	9,048	Yes	9,048	No	0	Yes	9,240	No	0
Total		0		18,923		135,339		21,514		0		57,883		26,440

Table 537: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 1

Table 537: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 1							
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	DAI	Grand Total
1BArroyo Seco	158	4,177	0	0	0	339	4,674
1BBarker Valley	1,128	9,021	218	0	0	0	10,367
1BBear Canyon	3	1,634	0	0	12,397	0	14,033
1BBear Mountain	241	345	0	0	0	111	698
1BBig Rocks	958	2,418	0	0	0	0	3,376
1BBlack Butte	297	0	0	0	1,086	19	1,402
1BCahuilla Mountain	0	800	0	0	0	0	800
1BCajon	485	6,373	0	0	0	603	7,461
1BCaliente	217	5,615	0	0	0	77	5,910
1BCamuesa	254	0	0	0	0	1,133	1,386
1BChalk Peak	111	0	0	0	2,633	0	2,744
1BCircle Mountain	726	5,326	0	0	0	309	6,361
1BColdwater	326	5,751	0	0	0	197	6,274
1BCondor Point	3	6,966	0	0	0	163	7,132
1BCutca Valley	152	8,464	0	0	0	3	8,619
1BDeep Creek	0	7,287	0	0	0	0	7,287
1BDiablo	40	9,367	0	0	0	0	9,407
1BDry Lakes	984	6,592	0	0	0	0	7,576
1BEagle Peak	1,204	5,234	0	0	0	0	6,438
1BFish Canyon	0	29,870	0	0	0	1	29,872
1BFox Mountain	1,911	9,263	0	0	0	0	11,174
1BGarcia Mountain	280	1,187	0	0	0	0	1,467
1BGranite Peak	447	0	0	0	0	0	447
1BHorseshoe Springs	596	0	0	0	0	0	596
1BJuncal	1,403	4,700	0	0	0	0	6,103
1BLa Brea	2,275	3,245	0	0	0	0	5,521
1BLittle Pine	189	395	0	0	0	0	584
1BMachesna Mountain	326	4,557	0	0	0	0	4,883
1BMadulce - Buckhorn	473	7,488	0	0	0	0	7,961
1BManzana	72	0	0	0	0	0	72
1BMatilija	377	2,733	0	0	0	64	3,175
1BMirada Pime	97	2,846	0	0	0	0	2,944
1BMono	924	15,312	0	0	0	0	16,236
1BNo Name	499	3,969	0	0	0	150	4,618
1BPleasant View	0	26,319	13	0	0	0	26,332
1BPyramid Peak A	661	13,381	0	0	0	1	14,043
1BPyramid Peak B	0	21	0	0	0	0	21
1BRaywood Flat A	249	281	0	0	0	0	530
1BRaywood Flat B	2,250	4,888	0	0	0	197	7,335
1BSalt Creek	28	5,168	160	0	0	349	5,705

Table 537: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 1							
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	DAI	Grand Total
1BSan Dimas	0	0	0	1,285		0	1,285
1BSanta Cruz	898	13,225	0	0	0	378	14,501
1BSawmill - Badlands	464	1,050	0	0	0	0	1,514
1BSespe - Frazier	7,925	10,247	0	0	0	304	18,476
1BSheep Mountain	488	0	0	0	0	124	612
1BSill Hill	211	4,079	982	0	0	7	5,279
1BSpoor Canyon	18	9,263	0	0	0	0	9,281
1BStrawberry Peak	0	7,168	0	0	0	25	7,193
1BSugarloaf	718	7,465	0	0	0	13	8,196
1BTepusquet Peak	356	0	0	0	0	0	356
1BTrabuco	1,134	20,521	0	0	0	1,665	23,320
1BWhite Ledge	1,081	9,632	0	0	0	35	10,748
1CAntimony	40,288	0	0	0	0	225	40,513
1CBarker Valley	1,471	74	0	0	0	0	1,545
1CBear Canyon	309	0	0	0	0	0	309
1CBear Mountain	18	0	0	0	0	329	348
1CBig Rocks	8,465	0	0	0	0	0	8,465
1CBlack Butte	3,814	4,352	0	0	1,616	0	9,782
1CBlack Mountain	16,830	0	0	0	0	0	16,830
1CCactus Springs A	21	0	0	0	0	0	21
1CCactus Springs B	2,614	0	0	0	0	486	3,101
1CCahuilla Mountain	10	6,134	0	0	0	0	6,144
1CCamuesa	5,195	0	0	0	0	1,610	6,805
1CChalk Peak	1,331	0	0	0	3,391	0	4,722
1CCity Creek	0	8,782	0	0	0	1,204	9,986
1CColdwater	52	1,865	0	0	0	179	2,096
1CCondor Point	7,411	108	0	0	0	218	7,736
1CCrystal Creek	659	6,049	0	0	0	63	6,771
1CCucamonga A	484	266	0	0	0	471	1,221
1CCucamonga B	1,767	9,310	0	0	0	841	11,918
1CCucamonga C	102	3,982	0	0	0	0	4,084
1CCutca Valley	2,294	141	0	0	0	3,456	5,891
1CCuyama	19,534	0	0	0	0	0	19,534
1CDe La Guerra	5,417	0	0	0	0	0	5,417
1CDeep Creek	8,691	7,678	0	0	0	192	16,560
1CDiablo	10,194	0	0	0	0	0	10,195
1CDry Lakes	9,207	0	0	0	0	255	9,463
1CEagle Peak	22	0	0	0	0	0	22
1CFox Mountain	40,908	0	0	0	0	0	40,908
1CGarcia Mountain	6,380	0	0	0	0	0	6,381

Table 537: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 1							
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	DAI	Grand Total
1CHearbreak Ridge	4,450	0	0	0	0	0	4,450
1CHixon Flat	7,877	0	0	0	0	209	8,086
1CHorse Creek Ridge	8,891	0	0	0	0	69	8,959
1CHorseshoe Springs	13,501	0	0	0	0	0	13,501
1CJuncal	6,176	0	0	0	0	0	6,177
1CLa Brea	8,453	0	0	0	0	0	8,453
1CLa Panza	4,958	0	0	0	0	0	4,958
1CLadd	3,726	0	0	0	0	1,561	5,287
1CLittle Pine	706	0	0	0	0	0	706
1CLos Machos Hills	10,984	0	0	0	0	0	10,984
1CMachesna Mountain	7,362	0	0	0	0	0	7,362
1CMadulce - Buckhorn	6,146	0	0	0	0	75	6,221
1CMagic Mountain	14,947	0	0	0	0	569	15,517
1CManzana	66	0	0	0	0	0	66
1CMatilija	1,732	8	0	0	0	1	1,740
1CMill Peak	869	6,688	0	0	0	319	7,876
1CMirada Pime	10,365	0	0	0	0	0	10,365
1CMono	11,795	1	0	0	0	0	11,796
1CNo Name	119	100	0	0	0	51	270
1CNordhoff	11,880	0	0	0	0	145	12,024
1CPine Creek	485	0	0	0	0	0	485
1CPyramid Peak A	96	0	0	0	0	0	96
1CPyramid Peak B	6,831	16	0	0	0	319	7,166
1CQuatal	7,248	0	0	0	0	0	7,248

Table 537: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 1							
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	DAI	Grand Total
1CRaywood Flat B	4	3,154	0	0	0	365	3,524
1CRed Mountain	6,165	0	0	0	0	1,865	8,030
1CRouse Hill	13,709	0	0	0	0	24	13,733
1CSalt Creek	5,010	125	0	0	0	164	5,298
1CSan Dimas	0	0	0	5,864	0	0	5,864
1CSan Gabriel Add	0	0	0	0	0	2,506	2,506
1CSan Mateo Canyon	65	0	0	0	0	0	65
1CSan Sevaine	286	6,569	0	0	0	0	6,854
1CSanta Cruz	5,972	1	0	0	0	648	6,620
1CSawmill - Badlands	47,831	0	0	0	0	1,706	49,537
1CSespe - Frazier	82,600	41	0	0	0	3,362	86,003
1CSheep Mountain	2,260	11,671	0	0	0	6,409	20,339
1CSpoor Canyon	4,471	0	0	0	0	0	4,471
1CStanley Mountain	14,267	0	0	0	0	0	14,267
1CTepusquet Peak	5,467	0	0	0	0	0	5,467
1CTequepis	8,924	0	0	0	0	162	9,086
1CTule	9,258	0	0	0	0	597	9,855
1CWest Fork	902	0	0	0	0	254	1,156
1CWestfork	3,555	0	0	0	0	830	4,385
1CWhite Ledge	7,434	0	0	0	0	425	7,859
1CWildhorse	41	0	0	0	0	1,439	1,480
Grand Total	595,008	380,763	1,373	7,148	21,123	39,866	1,045,281

Table 538. Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 2

Table 538: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 2								
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
1BArroyo Seco	621	4,053	0	0	0	0	0	4,674
1BBarker Valley	1,085	9,063	218	0	0	0	0	10,367
1BBear Canyon	1,636	0	0	0	12,397	0	0	14,033
1BBear Mountain	674	0	0	0	0	0	23	698
1BBig Rocks	3,376	0	0	0	0	0	0	3,376
1BBlack Butte	316	0	0	0	1,086	0	0	1,402
1BCahuilla Mountain	0	800	0	0	0	0	0	800
1BCajon	485	6,400	0	0	0	0	576	7,461
1BCaliente	217	5,615	0	0	0	0	77	5,910
1BCamuesa	254	0	0	0	0	0	1,133	1,386
1BChalk Peak	111	0	0	0	2,633	0	0	2,744

Table 538: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 2								
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
1BCircle Mountain	557	5,530	0	0	0	0	274	6,361
1BColdwater	378	5,700	0	0	0	0	197	6,274
1BCondor Point	3	6,966	0	0	0	0	163	7,132
1BCutca Valley	0	0	0	0	0	8,619	0	8,619
1BDeep Creek	1	6,735	550	0	0	0	0	7,287
1BDiablo	0	0	0	0	0	9,407	0	9,407
1BDry Lakes	984	6,592	0	0	0	0	0	7,576
1BEagle Peak	1,013	5,425	0	0	0	0	0	6,438
1BFish Canyon	0	0	0	0	0	29,872	0	29,872
1BFox Mountain	11,174	0	0	0	0	0	0	11,174
1BGarcia Mountain	0	0	0	0	0	1,467	0	1,467

Table 538: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 2								
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
1BGranite Peak	447	0	0	0	0	0	0	447
1BHorseshoe Springs	596	0	0	0	0	0	0	596
1BJuncal	1,439	4,664	0	0	0	0	0	6,103
1BLa Brea	2,517	3,003	0	0	0	0	0	5,521
1BLittle Pine	340	244	0	0	0	0	0	584
1BMachesna Mountain	284	0	0	0	0	4,599	0	4,883
1BMadulce - Buckhorn	364	2,612	0	0	0	4,985	0	7,961
1BManzana	72	0	0	0	0	0	0	72
1BMatilija	0	0	0	0	0	3,110	64	3,175
1BMirada Pime	97	2,846	0	0	0	0	0	2,944
1BMono	0	0	0	0	0	16,236	0	16,236
1BNo Name	387	4,081	0	0	0	0	150	4,618
1BPleasant View	0	0	0	0	0	26,332	0	26,332
1BPyramid Peak A	93	13,949	0	0	0	0	1	14,043
1BPyramid Peak B	0	21	0	0	0	0	0	21
1BRaywood Flat A	249	281	0	0	0	0	0	530
1BRaywood Flat B	1,823	950	0	0	0	4,366	197	7,335
1BSalt Creek	52	0	0	0	0	5,653	0	5,705
1BSan Dimas	0	0	0	0	0	1,285	0	1,285
1BSanta Cruz	589	13,534	0	0	0	0	378	14,501
1BSawmill - Badlands	1,514	0	0	0	0	0	0	1,514
1BSespe - Frazier	8,786	9,386	0	0	0	0	304	18,476
1BSheep Mountain	488	0	0	0	0	0	124	612
1BSill Hill	384	3,914	982	0	0	0	0	5,279
1BSpoor Canyon	18	9,263	0	0	0	0	0	9,281
1BStrawberry Peak	217	6,844	108	0	0	0	24	7,193
1BSugarloaf	545	1,730	0	0	0	5,909	13	8,196
1BTepusquet Peak	356	0	0	0	0	0	0	356
1BTrabuco	801	21,364	0	0	0	0	1,155	23,320
1BWhite Ledge	1,313	9,400	0	0	0	0	35	10,748
1CAntimony	40,288	0	0	0	0	0	225	40,513
1CBarker Valley	46	1,499	0	0	0	0	0	1,545
1CBear Canyon	309	0	0	0	0	0	0	309
1CBear Mountain	348	0	0	0	0	0	0	348
1CBig Rocks	8,465	0	0	0	0	0	0	8,465
1CBlack Butte	4,782	3,385	0	0	1,616	0	0	9,782
1CBlack Mountain	16,830	0	0	0	0	0	0	16,830
1CCactus Springs A	21	0	0	0	0	0	0	21
1CCactus Springs B	2,614	0	0	0	0	0	486	3,101

Table 538: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 2								
Inventoried Roadless Area	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
1CCahuilla Mountain	0	6,144	0	0	0	0	0	6,144
1CCamuesa	5,195	0	0	0	0	0	1,610	6,805
1CChalk Peak	1,331	0	0	0	3,391	0	0	4,722
1CCity Creek	0	8,526	283	0	0	0	1,176	9,986
1CColdwater	52	1,865	0	0	0	0	179	2,096
1CCondor Point	7,518	0	0	0	0	0	218	7,736
1CCrystal Creek	659	6,049	0	0	0	0	63	6,771
1CCucamonga A	0	0	0	0	0	1,221	0	1,221
1CCucamonga B	2,578	1,418	0	0	0	7,363	560	11,918
1CCucamonga C	101	3,982	0	0	0	0	0	4,084
1CCutca Valley	2,435	0	0	0	0	0	3,456	5,891
1CCuyama	19,534	0	0	0	0	0	0	19,534
1CDe La Guerra	5,417	0	0	0	0	0	0	5,417
1CDeep Creek	8,198	8,139	32	0	0	0	192	16,560
1C Diablo	0	0	0	0	0	10,195	0	10,195
1CDry Lakes	9,207	0	0	0	0	0	255	9,463
1CEagle Peak	0	22	0	0	0	0	0	22
1CFox Mountain	40,908	0	0	0	0	0	0	40,908
1CGarcia Mountain	6,381	0	0	0	0	0	0	6,381
1CHeartbreak Ridge	2,814	1,636	0	0	0	0	0	4,450
1CHixon Flat	7,877	0	0	0	0	0	209	8,086
1CHorse Creek Ridge	8,891	0	0	0	0	0	69	8,959
1CHorseshoe Springs	12,398	0	0	0	0	0	1,103	13,501
1CJuncal	5,361	816	0	0	0	0	0	6,177
1CLa Brea	8,388	65	0	0	0	0	0	8,453
1CLa Panza	4,958	0	0	0	0	0	0	4,958
1CLadd	3,726	0	0	0	0	0	1,561	5,287
1CLittle Pine	706	0	0	0	0	0	0	706
1C Los Machos Hills	10,984	0	0	0	0	0	0	10,984
1CMachesna Mountain	7,362	0	0	0	0	0	0	7,362
1CMadulce - Buckhorn	6,146	0	0	0	0	0	75	6,221
1CMagic Mountain	7,153	7,794	0	0	0	0	569	15,517
1CManzana	66	0	0	0	0	0	0	66
1CMatilija	1,732	7	0	0	0	0	1	1,740
1CMill Peak	1,186	6,381	0	0	0	0	309	7,876
1CMirada Pime	10,365	0	0	0	0	0	0	10,365
1CMono	0	0	0	0	0	11,796	0	11,796
1CNo Name	64	155	0	0	0	0	51	270
1CNordhoff	11,880	0	0	0	0	0	145	12,024

Inventoried Roadless Area	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
ICPine Creek	0	0	0	0	0	485	0	485
ICPyramid Peak A	21	75	0	0	0	0	0	96
ICPyramid Peak B	7,047	118	0	0	0	0	0	7,166
ICQuatal	7,248	0	0	0	0	0	0	7,248
ICRaywood Flat B	4	3,109	0	0	0	46	365	3,524
ICRed Mountain	0	8,030	0	0	0	0	0	8,030
ICRouse Hill	13,709	0	0	0	0	0	24	13,733
ICSalt Creek	0	5,298	0	0	0	0	0	5,298
ICSan Dimas	0	0	0	5,864	0	0	0	5,864
ICSan Gabriel Add	0	0	0	0	0	0	2,506	2,506
ICSan Mateo Canyon	65	0	0	0	0	0	0	65
ICSan Sevaine	286	6,569	0	0	0	0	0	6,854
ICSanta Cruz	4,729	1,244	0	0	0	0	648	6,620

Inventoried Roadless Area	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
ICSawmill - Badlands	47,831	0	0	0	0	0	1,706	49,537
ICSespe - Frazier	78,853	1	0	0	0	4,200	2,949	86,003
ICSheep Mountain	2,130	356	0	0	0	12,257	5,597	20,339
ICSpoor Canyon	4,471	0	0	0	0	0	0	4,471
ICStanley Mountain	14,267	0	0	0	0	0	0	14,267
ICTepusquet Peak	3,254	0	0	0	0	0	2,212	5,467
ICTequepis	8,924	0	0	0	0	0	162	9,086
ICTule	0	9,855	0	0	0	0	0	9,855
ICWest Fork	1,156	0	0	0	0	0	0	1,156
ICWestfork	3,763	0	0	0	0	0	622	4,385
ICWhite Ledge	7,422	12	0	0	0	0	425	7,859
ICWildhorse	271	0	0	0	0	515	694	1,480
Grand Total	547,377	263,518	2,174	5,864	21,123	169,917	35,309	1,045,281

Table 539: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 3

Inventoried Roadless Areas	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
IBArroyo Seco	0	172	0	0	0	4,502	0	4,674
IBBarker Valley	0	0	0	0	0	10,366	0	10,367
IBBear Canyon	70	1,566	0	0	12,397	0	0	14,033
IBBear Mountain	674	0	0	0	0	0	23	698
IBBig Rocks	1,349	2,027	0	0	0	0	0	3,376
IBBlack Butte	316	0	0	0	1,086	0	0	1,402
IBCahuilla Mountain	0	0	0	0	0	800	0	800
IBCajon	0	0	0	0	0	6,885	576	7,461
IBCaliente	0	0	0	0	0	5,832	77	5,910
IBCamuesa	223	31	0	0	0	0	1,133	1,386
IBChalk Peak	111	0	0	0	2,633	0	0	2,744
IBCircle Mountain	377	0	0	0	0	5,716	268	6,361
IBColdwater	0	0	0	0	0	6,078	197	6,274
IBCondor Point	57	6,912	0	0	0	0	163	7,132

Inventoried Roadless Areas	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
IBCutca Valley	0	0	0	0	0	8,619	0	8,619
IBDeep Creek	414	0	38	0	0	6,834	0	7,287
IBDiablo	0	0	0	0	0	9,407	0	9,407
IBDry Lakes	709	259	0	0	0	6,607	0	7,576
IBEagle Peak	0	0	0	0	0	6,438	0	6,438
IBFish Canyon	0	0	0	0	0	29,872	0	29,872
IBFox Mountain	1	0	0	0	0	11,173	0	11,174
IBGarcia Mountain	0	0	0	0	0	1,467	0	1,467
IBGranite Peak	0	0	0	0	0	447	0	447
IBHorseshoe Springs	566	31	0	0	0	0	0	596
IBJuncal	1,220	4,868	15	0	0	0	0	6,103
IBLa Brea	1,620	33	0	0	0	3,867	0	5,521
IBLittle Pine	584	0	0	0	0	0	0	584
IBMachesna Mountain	136	148	0	0	0	4,599	0	4,883

Table 539: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 3								
Inventoried Roadless Areas	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
IBMdulce - Buckhorn	293	2,683	0	0	0	4,985	0	7,961
IBManzana	72	0	0	0	0	0	0	72
IBMatilija	0	0	0	0	0	3,110	64	3,175
IBMirada Pime	117	2,826	0	0	0	0	0	2,944
IBMono	0	0	0	0	0	16,236	0	16,236
IBNo Name	1,273	3,195	0	0	0	0	150	4,618
IBPleasant View	0	0	0	0	0	26,332	0	26,332
IBPyramid Peak A	0	0	0	0	0	14,042	1	14,043
IBPyramid Peak B	0	0	0	0	0	21	0	21
IBRaywood Flat A	0	0	0	0	0	530	0	530
IBRaywood Flat B	2,174	599	0	0	0	4,366	197	7,335
IBSalt Creek	52	0	0	0	0	5,653	0	5,705
IBSan Dimas	0	0	0	0	0	1,285	0	1,285
IBSanta Cruz	0	0	0	0	0	14,123	378	14,501
IBSawmill - Badlands	40	354	0	0	0	1,120	0	1,514
IBSespe - Frazier	4,502	10,219	107	0	0	3,344	304	18,476
IBSheep Mountain	488	0	0	0	0	0	124	612
IBSill Hill	0	0	0	0	0	5,279	0	5,279
IBSpoor Canyon	498	8,783	0	0	0	0	0	9,281
IBStrawberry Peak	1	7,036	131	0	0	0	24	7,193
IBSugarloaf	755	0	0	0	0	7,428	13	8,196
IBTepusquet Peak	342	15	0	0	0	0	0	356
IBTrabuco	394	0	0	0	0	21,771	1,155	23,320
IBWhite Ledge	1,033	9,681	0	0	0	0	35	10,748
ICAntimony	9,892	20,371	0	0	0	9,973	277	40,513
ICBarker Valley	520	1,025	0	0	0	0	0	1,545

Table 539: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 3								
Inventoried Roadless Areas	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
ICBear Canyon	210	99	0	0	0	0	0	309
ICBear Mountain	348	0	0	0	0	0	0	348
ICBig Rocks	4,183	4,282	0	0	0	0	0	8,465
ICBlack Butte	3,676	4,476	14	0	1,616	0	0	9,782
ICBlack Mountain	3,511	13,319	0	0	0	0	0	16,830
ICCactus Springs A	0	0	0	0	0	21	0	21
ICCactus Springs B	0	0	0	0	0	2,614	486	3,101
ICCaquilla Mountain	0	0	0	0	0	6,144	0	6,144
ICCamuesa	1,532	3,661	1	0	0	0	1,610	6,805
ICChalk Peak	1,331	0	0	0	3,391	0	0	4,722
ICCity Creek	0	8,526	283	0	0	0	1,176	9,986
ICColdwater	0	0	0	0	0	1,968	128	2,096
ICCondor Point	2,753	4,765	0	0	0	0	218	7,736
ICCrystal Creek	0	0	0	0	0	6,708	63	6,771
ICCucamonga A	0	0	0	0	0	1,221	0	1,221
ICCucamonga B	1,276	2,719	0	0	0	7,363	560	11,918
ICCucamonga C	0	4,084	0	0	0	0	0	4,084
ICCutca Valley	1,944	491	22	0	0	0	3,434	5,891
ICCuyama	2,375	5,078	0	0	0	12,082	0	19,534
ICDe La Guerra	3,156	2,260	0	0	0	0	0	5,417
ICDeep Creek	2,073	18	0	0	0	14,278	192	16,560
ICDiablo	0	0	0	0	0	10,195	0	10,195
ICDry Lakes	2,555	4,317	0	0	0	2,187	404	9,463
ICEagle Peak	22	0	0	0	0	0	0	22
ICFox Mountain	6,494	34,414	0	0	0	0	0	40,908
ICGarcia Mountain	2,528	3,853	0	0	0	0	0	6,381

Table 539: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 3								
Inventoried Roadless Areas	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
ICHeartbreak Ridge	486	0	0	0	0	3,963	0	4,450
ICHixon Flat	962	0	130	0	0	6,795	200	8,086
ICHorse Creek Ridge	1,044	0	0	0	0	7,847	69	8,959
ICHorseshoe Springs	4,591	7,807	0	0	0	0	1,103	13,501
ICJuncal	2,585	3,592	0	0	0	0	0	6,177
ICLa Brea	2,967	5,486	0	0	0	0	0	8,453
ICLa Panza	2,863	2,095	0	0	0	0	0	4,958
ICLadd	874	2,852	0	0	0	0	1,561	5,287
ICLittle Pine	706	0	0	0	0	0	0	706
ICLos Machos Hills	5,668	5,316	0	0	0	0	0	10,984
ICMachesna Mountain	1,886	4,143	0	0	0	1,333	0	7,362
ICMadulce - Buckhorn	3,179	2,967	0	0	0	0	75	6,221
ICMagic Mountain	0	0	0	0	0	14,947	569	15,517
ICManzana	66	0	0	0	0	0	0	66
ICMatilija	1,739	0	0	0	0	0	1	1,740
ICMill Peak	0	0	0	0	0	7,567	309	7,876
ICMirada Pime	2,645	7,719	0	0	0	0	0	10,365
ICMono	0	0	0	0	0	11,796	0	11,796
ICNo Name	162	57	0	0	0	0	51	270
ICNordhoff	2,163	8,901	0	0	0	0	960	12,024
ICPine Creek	0	0	0	0	0	485	0	485
ICPyramid Peak A	0	0	0	0	0	96	0	96
ICPyramid Peak B	0	0	0	0	0	7,166	0	7,166
ICQuatal	1,756	1,549	0	0	0	3,943	0	7,248
ICRaywood	0	0	0	0	0	3,159	365	3,524

Table 539: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 3								
Inventoried Roadless Areas	BC	BCNM	CB	EF	EW	RW	DAI	Grand Total
Flat B								
ICRed Mountain	0	8,030	0	0	0	0	0	8,030
ICRouse Hill	3,338	0	0	0	0	10,371	24	13,733
ICSalt Creek	0	0	0	0	0	5,298	0	5,298
ICSan Dimas	0	0	0	5,864	0	0	0	5,864
ICSan Gabriel Add	0	0	0	0	0	2,506	0	2,506
ICSan Mateo Canyon	65	0	0	0	0	0	0	65
ICSan Sevaine	0	6,854	0	0	0	0	0	6,854
ICSanta Cruz	0	0	0	0	0	5,973	648	6,620
ICSawmill - Badlands	13,515	28,718	0	0	0	5,156	2,148	49,537
ICSespe - Frazier	26,080	52,157	0	0	0	4,630	3,136	86,003
ICSheep Mountain	733	2,033	109	0	0	11,610	5,854	20,339
ICSpoor Canyon	2,374	2,097	0	0	0	0	0	4,471
ICStanley Mountain	4,673	9,594	0	0	0	0	0	14,267
ICTepusquet Peak	690	2,564	0	0	0	0	2,212	5,467
ICTequepis	1,973	6,516	0	0	0	0	597	9,086
ICTule	0	9,855	0	0	0	0	0	9,855
ICWest Fork	0	1,156	0	0	0	0	0	1,156
ICWestfork	1	3,762	0	0	0	0	622	4,385
ICWhite Ledge	2,102	5,332	0	0	0	0	425	7,859
ICWildhorse	271	0	0	0	0	515	694	1,480
Grand Total	162,997	370,347	853	5,864	21,123	449,046	35,051	1,045,281

Table 540. Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 4

Table 540: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 4								
Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
IBArroyo Seco	0	4,674	0	0	0	0	0	4,674
IBBarker Valley	1,085	9,063	218	0	0	0	0	10,367
IBBear Canyon	3	1,634	0	0	12,397	0	0	14,033
IBBear Mountain	329	345	0	0	0	0	23	698
IBBig Rocks	3,376	0	0	0	0	0	0	3,376
IBBlack Butte	316	0	0	0	1,086	0	0	1,402
IBCahuilla Mountain	0	800	0	0	0	0	0	800
IBCajon	485	6,400	0	0	0	0	576	7,461
IBCaliente	217	5,615	0	0	0	0	77	5,910
IBCamuesa	254	0	0	0	0	0	1,133	1,386
IBChalk Peak	111	0	0	0	2,633	0	0	2,744
IBCircle Mountain	6,087	0	0	0	0	0	274	6,361
IBColdwater	1,284	4,793	0	0	0	0	197	6,274
IBCondor Point	3	6,966	0	0	0	0	163	7,132
IBCutca Valley	0	8,619	0	0	0	0	0	8,619
IBDeep Creek	1,214	5,522	550	0	0	0	0	7,287
IBDiablo	0	9,407	0	0	0	0	0	9,407
IBDry Lakes	7,576	0	0	0	0	0	0	7,576
IBEagle Peak	1,204	5,234	0	0	0	0	0	6,438
IBFish Canyon	0	29,872	0	0	0	0	0	29,872
IBFox Mountain	11,174	0	0	0	0	0	0	11,174
IBGarcia Mountain	0	0	0	0	0	1,467	0	1,467
IBGranite Peak	447	0	0	0	0	0	0	447
IBHorseshoe Springs	596	0	0	0	0	0	0	596
IBJuncal	6,103	0	0	0	0	0	0	6,103
IBLa Brea	2,091	0	0	0	0	3,430	0	5,521
IBLittle Pine	584	0	0	0	0	0	0	584
IBMachesna Mountain	284	0	0	0	0	4,599	0	4,883
IBMadulce - Buckhorn	293	2,683	0	0	0	4,985	0	7,961
IBManzana	72	0	0	0	0	0	0	72
IBMatilija	0	0	0	0	0	3,110	64	3,175
IBMirada Pime	2,944	0	0	0	0	0	0	2,944
IBMono	0	0	0	0	0	16,236	0	16,236
IBNo Name	499	3,969	0	0	0	0	150	4,618
IBPleasant View	0	25,549	783	0	0	0	0	26,332
IBPyramid Peak A	93	13,949	0	0	0	0	1	14,043
IBPyramid Peak B	0	21	0	0	0	0	0	21
IBRaywood Flat A	249	281	0	0	0	0	0	530

Table 540: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 4								
Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
IBRaywood Flat B	1,823	950	0	0	0	4,366	197	7,335
IBSalt Creek	52	5,493	160	0	0	0	0	5,705
IBSan Dimas	0	0	0	1,285	0	0	0	1,285
IBSanta Cruz	3,693	10,430	0	0	0	0	378	14,501
IBSawmill - Badlands	1,514	0	0	0	0	0	0	1,514
IBSespe - Frazier	14,246	4,088	0	0	0	0	143	18,476
IBSheep Mountain	488	0	0	0	0	0	124	612
IBSil Hill	211	4,086	982	0	0	0	0	5,279
IBSpoor Canyon	18	9,263	0	0	0	0	0	9,281
IBStrawberry Peak	0	7,169	0	0	0	0	24	7,193
IBSugarloaf	755	0	0	0	0	7,428	13	8,196
IBTepusquet Peak	356	0	0	0	0	0	0	356
IBTrabuco	801	21,364	0	0	0	0	1,155	23,320
IBWhite Ledge	10,714	0	0	0	0	0	35	10,748
ICAntimony	40,288	0	0	0	0	0	225	40,513
ICBarker Valley	46	1,499	0	0	0	0	0	1,545
ICBear Canyon	309	0	0	0	0	0	0	309
ICBear Mountain	347	0	0	0	0	0	0	348
ICBig Rocks	8,465	0	0	0	0	0	0	8,465
ICBlack Butte	8,166	0	0	0	1,616	0	0	9,782
ICBlack Mountain	3,511	13,319	0	0	0	0	0	16,830
ICCactus Springs A	21	0	0	0	0	0	0	21
ICCactus Springs B	2,614	0	0	0	0	0	486	3,101
ICCahuilla Mountain	0	6,144	0	0	0	0	0	6,144
ICCamuesa	5,195	0	0	0	0	0	1,610	6,805
ICChalk Peak	1,331	0	0	0	3,391	0	0	4,722
ICCity Creek	8,526	0	283	0	0	0	1,176	9,986
ICColdwater	463	1,383	0	0	0	0	250	2,096
ICCondor Point	7,518	0	0	0	0	0	218	7,736
ICCrystal Creek	665	6,043	0	0	0	0	63	6,771
ICCucamonga A	750	0	0	0	0	0	471	1,221
ICCucamonga B	3,996	0	0	0	0	7,363	560	11,918
ICCucamonga C	4,084	0	0	0	0	0	0	4,084
ICCutca Valley	2,435	0	0	0	0	0	3,456	5,891
ICCuyama	19,534	0	0	0	0	0	0	19,534
ICDe La Guerra	5,417	0	0	0	0	0	0	5,417
ICDeep Creek	8,188	8,149	32	0	0	0	192	16,560
ICDiablo	0	10,195	0	0	0	0	0	10,195

Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
ICDry Lakes	9,208	0	0	0	0	0	255	9,463
ICEagle Peak	22	0	0	0	0	0	0	22
ICFox Mountain	40,908	0	0	0	0	0	0	40,908
ICGarcia Mountain	6,381	0	0	0	0	0	0	6,381
ICHeartbreak Ridge	2,814	1,636	0	0	0	0	0	4,450
ICHixon Flat	7,877	0	0	0	0	0	209	8,086
ICHorse Creek Ridge	8,891	0	0	0	0	0	69	8,959
ICHorseshoe Springs	12,398	0	0	0	0	0	1,103	13,501
ICJuncal	6,177	0	0	0	0	0	0	6,177
ICLa Brea	8,453	0	0	0	0	0	0	8,453
ICLa Panza	4,958	0	0	0	0	0	0	4,958
ICLadd	3,726	0	0	0	0	0	1,561	5,287
ICLittle Pine	706	0	0	0	0	0	0	706
ICLos Machos Hills	10,984	0	0	0	0	0	0	10,984
ICMachesna Mountain	7,362	0	0	0	0	0	0	7,362
ICMadulce - Buckhorn	4,868	1,278	0	0	0	0	75	6,221
ICMagic Mountain	7,153	7,794	0	0	0	0	569	15,517
ICManzana	66	0	0	0	0	0	0	66
ICMatilija	1,739	0	0	0	0	0	1	1,740
ICMill Peak	1,176	6,391	0	0	0	0	309	7,876
ICMirada Pime	10,365	0	0	0	0	0	0	10,365
ICMono	0	0	0	0	0	11,796	0	11,796
ICNo Name	119	100	0	0	0	0	51	270
ICNordhoff	11,880	0	0	0	0	0	145	12,024
ICPine Creek	0	0	0	0	0	485	0	485
ICPyramid Peak A	21	75	0	0	0	0	0	96

Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
ICPyramid Peak B	7,047	118	0	0	0	0	0	7,166
ICQuatal	7,248	0	0	0	0	0	0	7,248
ICRaywood Flat B	4	3,109	0	0	0	46	365	3,524
ICRed Mountain	0	8,030	0	0	0	0	0	8,030
ICRouse Hill	13,709	0	0	0	0	0	24	13,733
ICSalt Creek	5,298	0	0	0	0	0	0	5,298
ICSan Dimas	0	0	0	5,864	0	0	0	5,864
ICSan Gabriel Add	0	0	0	0	0	0	2,506	2,506
ICSan Mateo Canyon	65	0	0	0	0	0	0	65
ICSan Sevaime	286	6,569	0	0	0	0	0	6,854
ICSanta Cruz	5,171	802	0	0	0	0	648	6,620
ICSawmill - Badlands	47,831	0	0	0	0	0	1,706	49,537
ICSespe - Frazier	75,912	7,096	0	0	0	0	2,994	86,003
ICSheep Mountain	2,485	0	0	0	0	12,257	5,597	20,339
ICSpoor Canyon	4,471	0	0	0	0	0	0	4,471
ICStanley Mountain	14,267	0	0	0	0	0	0	14,267
ICTepusquet Peak	3,254	0	0	0	0	0	2,212	5,467
ICTequepis	8,924	0	0	0	0	0	162	9,086
ICTule	0	9,855	0	0	0	0	0	9,855
ICWest Fork	0	1,156	0	0	0	0	0	1,156
ICWestfork	1	3,762	0	0	0	0	622	4,385
ICWhite Ledge	7,434	0	0	0	0	0	425	7,859
ICWildhorse	271	515	0	0	0	0	694	1,480
Grand Total	587,439	313,260	3,009	7,148	21,123	77,567	35,734	1,045,281

Table 541: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 4a

Inventoried Roadless Area	BC	BCMUR	BCNM	CB	EF	EW	RW	DAI	Grand Total
IBArroyo Seco	245	156	4,273	0	0	0	0	0	4,674
IBBarker Valley	1,085	94	9,187	0	0	0	0	0	10,367
IBBear Canyon	11	1,626	0	0	0	12,397	0	0	14,033
IBBear Mountain	36	293	345	0	0	0	0	23	698
IBBig Rocks	0	3,376	0	0	0	0	0	0	3,376
IBBlack Butte	147	170	0	0	0	1,086	0	0	1,402
IBCahuilla Mountain	0	0	753	0	0	0	0	47	800
IBCajon	48	0	6,492	0	0	0	0	921	7,461
IBCaliente	129	0	5,675	0	0	0	0	106	5,910

Inventoried Roadless Area	BC	BCMUR	BCNM	CB	EF	EW	RW	DAI	Grand Total
IBCamuesa	254	0	0	0	0	0	0	1,133	1,386
IBChalk Peak	111	0	0	0	0	2,633	0	0	2,744
IBCircle Mountain	269	4,796	0	0	0	0	0	1,296	6,361
IBColdwater	385	0	5,692	0	0	0	0	197	6,274
IBCondor Point	1,512	0	0	0	0	0	0	5,620	7,132
IBCutca Valley	0	0	0	0	0	0	8,619	0	8,619
IBDeep Creek	553	30	6,153	550	0	0	0	0	7,287
IBDiablo	640	8,768	0	0	0	0	0	0	9,407
IBDry Lakes	518	0	7,058	0	0	0	0	0	7,576

Inventoried Roadless Area	BC	BCMUR	BCNM	CB	EF	EW	RW	DAI	Grand Total
IBEagle Peak	798	1,205	4,435	0	0	0	0	0	6,438
IBFish Canyon	345	497	28,684	0	0	0	0	346	29,872
IBFox Mountain	573	10,601	0	0	0	0	0	0	11,174
IBGarcia Mountain	39	240	1,187	0	0	0	0	0	1,467
IBGranite Peak	278	0	169	0	0	0	0	0	447
IBHorseshoe Springs	596	0	0	0	0	0	0	0	596
IBJuncal	507	5,596	0	0	0	0	0	0	6,103
IBLa Brea	1,096	1,168	3,256	0	0	0	0	0	5,521
IBLittle Pine	0	583	1	0	0	0	0	0	584
IBMachesna Mountain	136	148	4,599	0	0	0	0	0	4,883
IBMadulce - Buckhorn	5	45	3,208	271	0	0	4,433	0	7,961
IBManzana	0	72	0	0	0	0	0	0	72
IBMatilija	237	75	247	0	0	0	2,616	0	3,175
IBMirada Pime	37	2,906	0	0	0	0	0	0	2,944
IBMono	0	224	10	12	0	0	15,990	0	16,236
IBNo Name	143	772	3,520	0	0	0	0	183	4,618
IBPleasant View	496	0	24,489	774	0	0	0	572	26,332
IBPyramid Peak A	40	2,224	4,413	0	0	0	7,366	0	14,043
IBPyramid Peak B	4	0	3	0	0	0	15	0	21
IBRaywood Flat A	2	528	0	0	0	0	0	0	530
IBRaywood Flat B	216	67	4,889	0	0	0	1,882	282	7,335
IBSalt Creek	118	143	4,983	160	0	0	0	300	5,705
IBSan Dimas	0	0	0	0	1,285	0	0	0	1,285
IBSanta Cruz	38	3,357	10,729	0	0	0	0	378	14,501
IBSawmill - Badlands	1,514	0	0	0	0	0	0	0	1,514
IBSespe - Frazier	6,998	49	11,280	107	0	0	0	42	18,476
IBSheep Mountain	0	0	464	0	0	0	0	148	612
IBSill Hill	211	0	4,369	506	0	0	0	193	5,279
IBSpoor Canyon	207	343	8,730	0	0	0	0	0	9,281
IBStrawberry Peak	730	63	6,252	123	0	0	0	24	7,193
IBSugarloaf	247	1,080	6,847	0	0	0	0	23	8,196
IBTepusquet Peak	23	334	0	0	0	0	0	0	356
IBTrabuco	757	181	21,227	0	0	0	0	1,155	23,320
IBWhite Ledge	123	600	10,025	0	0	0	0	0	10,748
ICAntimony	2,858	37,025	0	0	0	0	0	629	40,513
ICBarker Valley	46	413	1,086	0	0	0	0	0	1,545
ICBear Canyon	114	195	0	0	0	0	0	0	309
ICBear Mountain	0	347	0	0	0	0	0	0	348
ICBig Rocks	3,348	5,117	0	0	0	0	0	0	8,465
ICBlack Butte	2,662	565	4,922	18	0	1,616	0	0	9,782

Inventoried Roadless Area	BC	BCMUR	BCNM	CB	EF	EW	RW	DAI	Grand Total
ICBlack Mountain	2,027	13,646	1,157	0	0	0	0	0	16,830
ICCactus Springs A	7	0	0	0	0	0	13	0	21
ICCactus Springs B	2,982	0	0	0	0	0	0	119	3,101
ICCahuilla Mountain	13	0	4,962	0	0	0	0	1,169	6,144
ICCamuesa	5,155	40	0	0	0	0	0	1,610	6,805
ICChalk Peak	1,331	0	0	0	0	3,391	0	0	4,722
ICCity Creek	4	60	8,366	283	0	0	0	1,273	9,986
ICColdwater	207	414	1,351	0	0	0	0	124	2,096
ICCondor Point	5,932	8	0	0	0	0	0	1,796	7,736
ICCrystal Creek	192	264	6,245	0	0	0	0	71	6,771
ICCucamonga A	103	55	16	0	0	0	448	598	1,221
ICCucamonga B	2,289	11	2,672	0	0	0	6,280	667	11,918
ICCucamonga C	10	0	4,074	0	0	0	0	0	4,084
ICCutca Valley	1,617	461	1,405	22	0	0	0	2,385	5,891
ICCuyama	2,136	17,351	48	0	0	0	0	0	19,534
ICDe La Guerra	5,411	0	0	0	0	0	0	6	5,417
ICDeep Creek	2,391	96	14,042	31	0	0	0	0	16,560
ICDiablo	1,105	9,089	0	0	0	0	0	0	10,195
ICDry Lakes	947	0	7,994	0	0	0	0	521	9,463
ICEagle Peak	0	22	0	0	0	0	0	0	22
ICFox Mountain	2,289	38,619	0	0	0	0	0	0	40,908
ICGarcia Mountain	826	5,546	9	0	0	0	0	0	6,381
ICHeartbreak Ridge	277	46	0	0	0	0	4,126	0	4,450
ICHixon Flat	5,590	0	2,159	130	0	0	0	207	8,086
ICHorse Creek Ridge	1,229	412	6,928	0	0	0	0	391	8,959
ICHorseshoe Springs	5,853	2,100	5,549	0	0	0	0	0	13,501
ICJuncal	817	5,359	0	0	0	0	0	0	6,177
ICLa Brea	2,743	3,274	2,435	0	0	0	0	0	8,453
ICLa Panza	4,958	0	0	0	0	0	0	0	4,958
ICLadd	625	661	3,070	0	0	0	0	930	5,287
ICLittle Pine	205	501	0	0	0	0	0	0	706
ICLos Machos Hills	9,366	1,618	0	0	0	0	0	0	10,984
ICMachesna Mountain	5,068	2,040	253	0	0	0	0	0	7,362
ICMadulce - Buckhorn	754	2,557	1,987	0	0	0	848	75	6,221
ICMagic Mountain	0	2,349	12,582	0	0	0	0	586	15,517
ICManzana	20	45	0	0	0	0	0	0	66
ICMatilija	477	53	1,004	0	0	0	206	0	1,740
ICMill Peak	116	168	7,283	0	0	0	0	309	7,876
ICMirada Pime	404	9,961	0	0	0	0	0	0	10,365
ICMono	54	739	0	0	0	0	11,002	0	11,796

Table 541: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 4a									
Inventoried Roadless Area	BC	BCMUR	BCNM	CB	EF	EW	RW	DAI	Grand Total
ICNo Name	64	151	4	0	0	0	0	51	270
ICNordhoff	174	12	10,897	0	0	0	0	940	12,024
ICPine Creek	0	56	0	0	0	0	429	0	485
ICPyramid Peak A	82	0	0	0	0	0	14	0	96
ICPyramid Peak B	6,886	0	8	0	0	0	16	255	7,166
ICQuatal	7,248	0	0	0	0	0	0	0	7,248
ICRaywood Flat B	7	0	1,114	0	0	0	2,035	368	3,524
ICRed Mountain	24	0	7,781	0	0	0	0	226	8,030
ICRouse Hill	9,822	76	3,808	0	0	0	0	27	13,733
ICSalt Creek	342	538	4,419	0	0	0	0	0	5,298
ICSan Dimas	0	0	0	5,864	0	0	0	0	5,864
ICSan Gabriel Add	0	13	2,493	0	0	0	0	0	2,506
ICSan Mateo Canyon	65	0	0	0	0	0	0	0	65
ICSan Sevaine	16	0	6,833	0	0	0	0	5	6,854

Table 541: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 4a									
Inventoried Roadless Area	BC	BCMUR	BCNM	CB	EF	EW	RW	DAI	Grand Total
ICSanta Cruz	872	2,792	2,309	0	0	0	0	648	6,620
ICSawmill - Badlands	45,875	1,920	0	0	0	0	0	1,741	49,537
ICSespe - Frazier	59,290	3,578	20,419	0	0	0	0	2,715	86,003
ICSheep Mountain	678	1,614	2,495	0	0	0	12,702	2,850	20,339
ICSpoor Canyon	2,906	0	1,565	0	0	0	0	0	4,471
ICStanley Mountain	2,383	11,884	0	0	0	0	0	0	14,267
ICTepusquet Peak	23	5,443	0	0	0	0	0	0	5,467
ICTequepis	7,930	0	0	0	0	0	0	1,156	9,086
ICTule	845	0	8,696	0	0	0	0	314	9,855
ICWest Fork	216	198	742	0	0	0	0	0	1,156
ICWestfork	452	850	3,031	0	0	0	0	51	4,385
ICWhite Ledge	97	1,930	5,819	1	0	0	0	13	7,859
ICWildhorse	271	515	0	0	0	0	0	694	1,480
Grand Total	253,584	245,209	397,675	2,990	7,149	21,123	79,041	38,511	1,045,281

Table 542: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 5

Table 542: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 5					
Inventoried Roadless Area	BC	EF	EW	DAI	Grand Total
IBArroyo Seco	4,674	0	0	0	4,674
IBBarker Valley	10,366	0	0	0	10,367
IBBear Canyon	1,636	0	12,397	0	14,033
IBBear Mountain	674	0	0	23	698
IBBig Rocks	3,376	0	0	0	3,376
IBBlack Butte	316	0	1,086	0	1,402
IBCahuilla Mountain	800	0	0	0	800
IBCajon	6,885	0	0	576	7,461
IBCaliente	5,832	0	0	77	5,910
IBCamuesa	254	0	0	1,133	1,386
IBChalk Peak	111	0	2,633	0	2,744
IBCircle Mountain	6,087	0	0	274	6,361
IBColdwater	6,078	0	0	197	6,274
IBCondor Point	6,969	0	0	163	7,132
IBCutca Valley	8,619	0	0	0	8,619
IBDeep Creek	7,287	0	0	0	7,287
IBDiablo	9,407	0	0	0	9,407
IBDry Lakes	7,576	0	0	0	7,576
IBEagle Peak	6,438	0	0	0	6,438
IBFish Canyon	29,872	0	0	0	29,872
IBFox Mountain	11,174	0	0	0	11,174

Table 542: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 5					
Inventoried Roadless Area	BC	EF	EW	DAI	Grand Total
IBGarcia Mountain	1,467	0	0	0	1,467
IBGranite Peak	447	0	0	0	447
IBHorseshoe Springs	596	0	0	0	596
IBJuncal	6,103	0	0	0	6,103
IBLa Brea	5,521	0	0	0	5,521
IBLittle Pine	584	0	0	0	584
IBMachesna Mountain	4,883	0	0	0	4,883
IBMadulce - Buckhorn	7,961	0	0	0	7,961
IBManzana	72	0	0	0	72
IBMatilija	3,110	0	0	64	3,175
IBMirada Pime	2,944	0	0	0	2,944
IBMono	16,236	0	0	0	16,236
IBNo Name	4,468	0	0	150	4,618
IBPleasant View	26,332	0	0	0	26,332
IBPyramid Peak A	14,042	0	0	1	14,043
IBPyramid Peak B	21	0	0	0	21
IBRaywood Flat A	530	0	0	0	530
IBRaywood Flat B	7,138	0	0	197	7,335
IBSalt Creek	5,705	0	0	0	5,705
IBSan Dimas	0	1,285	0	0	1,285
IBSanta Cruz	14,123	0	0	378	14,501

Table 542: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 5					
Inventoried Roadless Area	BC	EF	EW	DAI	Grand Total
IBSawmill - Badlands	1,514	0	0	0	1,514
IBSespe - Frazier	18,334	0	0	143	18,476
IBSheep Mountain	488	0	0	124	612
IBSill Hill	5,279	0	0	0	5,279
IBSpoor Canyon	9,281	0	0	0	9,281
IBStrawberry Peak	7,169	0	0	24	7,193
IBSugarloaf	8,183	0	0	13	8,196
IBTepusquet Peak	356	0	0	0	356
IBTrabuco	22,165	0	0	1,155	23,320
IBWhite Ledge	10,714	0	0	35	10,748
ICAntimony	40,288	0	0	225	40,513
ICBarker Valley	1,545	0	0	0	1,545
ICBear Canyon	309	0	0	0	309
ICBear Mountain	348	0	0	0	348
ICBig Rocks	8,465	0	0	0	8,465
ICBlack Butte	8,166	0	1,616	0	9,782
ICBlack Mountain	16,830	0	0	0	16,830
ICCactus Springs A	21	0	0	0	21
ICCactus Springs B	2,614	0	0	486	3,101
ICCahuilla Mountain	6,144	0	0	0	6,144
ICCamuesa	5,195	0	0	1,610	6,805
ICChalk Peak	1,331	0	3,391	0	4,722
ICCity Creek	8,810	0	0	1,176	9,986
ICColdwater	1,917	0	0	179	2,096
ICCondor Point	7,518	0	0	218	7,736
ICCrystal Creek	6,708	0	0	63	6,771
ICCucamonga A	750	0	0	471	1,221
ICCucamonga B	11,358	0	0	560	11,918
ICCucamonga C	4,084	0	0	0	4,084
ICCutca Valley	2,435	0	0	3,456	5,891
ICCuyama	19,534	0	0	0	19,534
ICDe La Guerra	5,417	0	0	0	5,417
ICDeep Creek	16,369	0	0	192	16,560
ICDiablo	10,195	0	0	0	10,195
ICDry Lakes	9,208	0	0	255	9,463
ICEagle Peak	22	0	0	0	22
ICFox Mountain	40,908	0	0	0	40,908
ICGarcia Mountain	6,381	0	0	0	6,381
ICHeartbreak Ridge	4,450	0	0	0	4,450
ICHixon Flat	7,877	0	0	209	8,086

Table 542: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 5					
Inventoried Roadless Area	BC	EF	EW	DAI	Grand Total
ICHorse Creek Ridge	8,891	0	0	69	8,959
ICHorseshoe Springs	13,501	0	0	0	13,501
ICJuncal	6,177	0	0	0	6,177
ICLa Brea	8,453	0	0	0	8,453
ICLa Panza	4,958	0	0	0	4,958
ICLadd	3,726	0	0	1,561	5,287
ICLittle Pine	706	0	0	0	706
ICLos Machos Hills	10,984	0	0	0	10,984
ICMachesna Mountain	7,362	0	0	0	7,362
ICMadulce - Buckhorn	6,146	0	0	75	6,221
ICMagic Mountain	14,947	0	0	569	15,517
ICManzana	66	0	0	0	66
ICMatilija	1,739	0	0	1	1,740
ICMill Peak	7,567	0	0	309	7,876
ICMirada Pime	10,365	0	0	0	10,365
ICMono	11,796	0	0	0	11,796
ICNo Name	219	0	0	51	270
ICNordhoff	11,880	0	0	145	12,024
ICPine Creek	485	0	0	0	485
ICPyramid Peak A	96	0	0	0	96
ICPyramid Peak B	7,166	0	0	0	7,166
ICQuatal	7,248	0	0	0	7,248
ICRaywood Flat B	3,159	0	0	365	3,524
ICRed Mountain	8,030	0	0	0	8,030
ICRouse Hill	13,709	0	0	24	13,733
ICSalt Creek	5,298	0	0	0	5,298
ICSan Dimas	0	5,864	0	0	5,864
ICSan Gabriel Add	0	0	0	2,506	2,506
ICSan Mateo Canyon	65	0	0	0	65
ICSan Sevaine	6,854	0	0	0	6,854
ICSanta Cruz	5,973	0	0	648	6,620
ICSawmill - Badlands	47,831	0	0	1,706	49,537
ICSespe - Frazier	83,009	0	0	2,994	86,003
ICSheep Mountain	14,742	0	0	5,597	20,339
ICSpoor Canyon	4,471	0	0	0	4,471
ICStanley Mountain	14,267	0	0	0	14,267
ICTepusquet Peak	5,467	0	0	0	5,467
ICTequepis	8,924	0	0	162	9,086
ICTule	9,855	0	0	0	9,855
ICWest Fork	1,156	0	0	0	1,156

Table 542: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 5					
Inventoried Roadless Area	BC	EF	EW	DAI	Grand Total
ICWestfork	3,763	0	0	622	4,385
ICWhite Ledge	7,434	0	0	425	7,859

Table 542: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 5					
Inventoried Roadless Area	BC	EF	EW	DAI	Grand Total
ICWildhorse	786	0	0	694	1,480
Grand Total	984,662	7,148	21,123	32,348	1,045,281

Table 543: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 6

Table 543: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 6								
Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
IBArroyo Seco	729	3,945	0	0	0	0	0	4,674
IBBarker Valley	244	149	0	0	0	9,970	4	10,367
IBBear Canyon	9	1,628	0	0	12,397	0	0	14,033
IBBear Mountain	433	241	0	0	0	0	23	698
IBBig Rocks	217	3,159	0	0	0	0	0	3,376
IBBlack Butte	316	0	0	0	1,086	0	0	1,402
IBCahuilla Mountain	0	439	0	0	0	361	0	800
IBCajon	1,149	5,736	0	0	0	0	576	7,461
IBCaliente	0	0	0	0	0	5,826	83	5,910
IBCamuesa	0	254	0	0	0	0	1,133	1,386
IBChalk Peak	111	0	0	0	2,633	0	0	2,744
IBCircle Mountain	1,006	5,072	0	0	0	0	284	6,361
IBColdwater	45	4	0	0	0	6,029	197	6,274
IBCondor Point	0	6,969	0	0	0	0	163	7,132
IBCutca Valley	0	48	0	0	0	8,563	8	8,619
IBDeep Creek	338	6,398	550	0	0	0	0	7,287
IBDiablo	39	692	0	0	0	8,676	0	9,407
IBDry Lakes	53	0	0	0	0	7,523	0	7,576
IBEagle Peak	450	7	0	0	0	5,982	0	6,438
IBFish Canyon	10	0	0	0	0	29,855	7	29,872
IBFox Mountain	6	605	0	0	0	10,562	0	11,174
IBGarcia Mountain	0	161	0	0	0	1,305	0	1,467
IBGranite Peak	85	362	0	0	0	0	0	447
IBHorseshoe Springs	566	31	0	0	0	0	0	596
IBJuncal	309	531	15	0	0	5,248	0	6,103
IBLa Brea	1,556	3,964	0	0	0	0	0	5,521
IBLittle Pine	0	175	0	0	0	409	0	584
IBMachesna Mountain	72	648	0	0	0	4,163	0	4,883
IBMadulce - Buckhorn	0	77	0	0	0	7,885	0	7,961
IBManzana	0	72	0	0	0	0	0	72
IBMatilija	229	2,869	0	0	0	12	64	3,175
IBMirada Pime	97	2,846	0	0	0	0	0	2,944
IBMono	0	287	0	0	0	15,949	0	16,236

Table 543: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 6								
Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
IBNo Name	342	81	0	0	0	4,045	150	4,618
IBPleasant View	356	669	0	0	0	25,189	118	26,332
IBPyramid Peak A	20	107	0	0	0	13,913	3	14,043
IBPyramid Peak B	0	9	0	0	0	12	0	21
IBRaywood Flat A	0	530	0	0	0	0	0	530
IBRaywood Flat B	0	2,924	0	0	0	4,173	238	7,335
IBSalt Creek	103	0	0	0	0	5,572	30	5,705
IBSan Dimas	0	0	0	1,285	0	0	0	1,285
IBSanta Cruz	3	50	0	0	0	14,070	378	14,501
IBSawmill - Badlands	93	308	0	0	0	1,113	0	1,514
IBSespe - Frazier	498	11,079	107	0	0	6,488	304	18,476
IBSheep Mountain	0	488	0	0	0	0	124	612
IBSill Hill	175	169	0	0	0	4,931	4	5,279
IBSpoor Canyon	9	9,271	0	0	0	0	0	9,281
IBStrawberry Peak	1,613	5,424	131	0	0	0	24	7,193
IBSugarloaf	325	309	0	0	0	7,550	13	8,196
IBTepusquet Peak	319	37	0	0	0	0	0	356
IBTrabuco	1,524	20,622	0	0	0	0	1,173	23,320
IBWhite Ledge	0	677	0	0	0	10,037	35	10,748
ICAntimony	349	3,607	0	0	0	36,332	225	40,513
ICBarker Valley	200	903	189	0	0	253	0	1,545
ICBear Canyon	121	188	0	0	0	0	0	309
ICBear Mountain	342	5	0	0	0	0	0	348
ICBig Rocks	86	8,379	0	0	0	0	0	8,465
ICBlack Butte	2,739	1,143	14	0	1,616	4,271	0	9,782
ICBlack Mountain	721	3,216	0	0	0	12,893	0	16,830
ICCactus Springs A	0	21	0	0	0	0	0	21
ICCactus Springs B	51	2,563	0	0	0	0	486	3,101
ICCahuilla Mountain	12	38	0	0	0	6,092	2	6,144
ICCamuesa	120	5,073	1	0	0	0	1,610	6,805
ICChalk Peak	1,331	0	0	0	3,391	0	0	4,722
ICCity Creek	20	8,506	283	0	0	0	1,176	9,986
ICColdwater	52	1,288	0	0	0	555	201	2,096

Table 543: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 6								
Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
ICCondor Point	1,807	5,711	0	0	0	0	218	7,736
ICCrystal Creek	1,470	5,238	0	0	0	0	63	6,771
ICCucamonga A	266	484	0	0	0	0	471	1,221
ICCucamonga B	836	3,067	0	0	0	7,455	560	11,918
ICCucamonga C	117	3,967	0	0	0	0	0	4,084
ICCutca Valley	36	437	22	0	0	1,961	3,434	5,891
ICCuyama	155	52	0	0	0	19,328	0	19,534
ICDe La Guerra	1,277	4,139	0	0	0	0	0	5,417
ICDeep Creek	4,905	11,398	32	0	0	0	225	16,560
ICDiablo	314	1,018	0	0	0	8,863	0	10,195
ICDry Lakes	1,016	3,436	0	0	0	4,606	404	9,463
ICEagle Peak	0	3	0	0	0	18	0	22
ICFox Mountain	764	518	0	0	0	39,626	0	40,908
ICGarcia Mountain	478	3,514	0	0	0	2,389	0	6,381
ICHeartbreak Ridge	572	3,878	0	0	0	0	0	4,450
ICHixon Flat	3,356	4,399	131	0	0	0	200	8,086
ICHorse Creek Ridge	320	684	0	0	0	7,836	119	8,959
ICHorseshoe Springs	3,171	9,226	0	0	0	0	1,103	13,501
ICJuncal	103	1,276	0	0	0	4,798	0	6,177
ICLa Brea	1,669	6,784	0	0	0	0	0	8,453
ICLa Panza	1,339	3,619	0	0	0	0	0	4,958
ICLadd	100	0	0	0	0	3,626	1,561	5,287
ICLittle Pine	0	705	0	0	0	1	0	706
ICLos Machos Hills	379	10,606	0	0	0	0	0	10,984
ICMachesna Mountain	533	6,045	0	0	0	784	0	7,362
ICMadulce - Buckhorn	67	3,000	0	0	0	3,080	75	6,221
ICMagic Mountain	1,296	0	0	0	0	13,644	576	15,517
ICManzana	10	56	0	0	0	0	0	66
ICMatilija	584	791	0	0	0	364	1	1,740
ICMill Peak	783	6,784	0	0	0	0	309	7,876
ICMirada Pime	1,634	8,731	0	0	0	0	0	10,365
ICMono	0	323	0	0	0	11,473	0	11,796
ICNo Name	70	5	0	0	0	144	51	270
ICNordhoff	0	11,880	0	0	0	0	145	12,024
ICPine Creek	0	485	0	0	0	0	0	485
ICPyramid Peak A	0	63	0	0	0	33	0	96
ICPyramid Peak B	253	6,772	0	0	0	6	134	7,166
ICQuatal	2,029	5,219	0	0	0	0	0	7,248
ICRaywood Flat B	415	2,696	0	0	0	48	365	3,524
ICRed Mountain	3	0	0	0	0	7,990	37	8,030

Table 543: Disposition of Inventoried Roadless Areas by Land Use Zone, Alternative 6								
Inventoried Roadless Area	BC	BCNM	CBZ	EF	EW	RW	DAI	Grand Total
ICRouse Hill	3,021	10,480	0	0	0	208	24	13,733
ICSalt Creek	26	0	0	0	0	5,273	0	5,298
ICSan Dimas	0	0	0	5,864	0	0	0	5,864
ICSan Gabriel Add	0	0	21	0	0	0	2,485	2,506
ICSan Mateo Canyon	65	0	0	0	0	0	0	65
ICSan Sevaine	117	6,737	0	0	0	0	0	6,854
ICSanta Cruz	232	2,249	0	0	0	3,491	648	6,620
ICSawmill - Badlands	8,502	6,150	0	0	0	33,175	1,710	49,537
ICSespe - Frazier	5,724	65,597	0	0	0	11,609	3,072	86,003
ICSheep Mountain	1,864	2,063	109	0	0	10,815	5,488	20,339
ICSpoor Canyon	179	4,292	0	0	0	0	0	4,471
ICStanley Mountain	280	13,987	0	0	0	0	0	14,267
ICTepusquet Peak	624	2,631	0	0	0	0	2,212	5,467
ICTequepis	928	7,996	0	0	0	0	162	9,086
ICTule	1	0	0	0	0	9,829	25	9,855
ICWest Fork	20	0	0	0	0	1,136	0	1,156
ICWestfork	13	0	0	0	0	3,750	622	4,385
ICWhite Ledge	67	1,986	0	0	0	5,381	425	7,859
ICWildhorse	271	0	0	0	0	515	694	1,480
Grand Total	73,654	396,230	1,608	7,148	21,123	509,062	36,455	1,045,281

The effects analysis for inventoried roadless areas and recommended wilderness considers land within the boundaries of the Angeles, Cleveland, Los Padres and San Bernardino National Forests. Bureau of Land Management (BLM)-administered lands, National Parks and Monuments, and State of California Parks adjacent to and near the national forests are also considered. Private lands were not considered. Other national forests throughout the state of California are now or will soon be initiating forest plan revisions. However, they are physically separated from the southern California national forests (by many miles) and any analysis of their roadless areas and potential wilderness recommendations would not affect the national forests in this forest plan revision. The National Wilderness Preservation System encompasses all federal lands. No roadless areas are currently being considered for wilderness designation in southern California within public lands administered by the Bureau of Land Management, National Park Service, or State of California.

Areas recommended for wilderness designation in the Record of Decision (ROD) will be managed to maintain their existing wilderness character and potential for inclusion in the National Wilderness Preservation System until congressional action on the recommendations and the Wilderness Study Area. Any recommendation for wilderness designation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States (FSM 1923.11). Congress has reserved the authority to make final decisions on wilderness designation.

Appendix E. Wild and Scenic Rivers

Background and Study Process

Background

Congress enacted the Wild and Scenic Rivers Act (WSRA) in 1968 to preserve select rivers' free-flowing condition, water quality and outstandingly remarkable values. The most important provision of the WSRA is protecting rivers from the harmful effects of water resources projects. To protect free-flowing character, the Federal Energy Regulatory Commission (which licenses nonfederal hydropower projects) is not allowed to license construction of dams, water conduits, reservoirs, powerhouses, transmission lines, or other project works on or directly affecting wild and scenic rivers (WSRs). Other federal agencies may not assist by loan, grant, and license or otherwise any water resources project that would have a direct and adverse effect on the values for which a river was designated.

The WSRA also directs that each river in the National Wild and Scenic Rivers System (National System) be administered in a manner to protect and enhance a river's outstanding natural and cultural values. It allows existing uses of a river to continue and future uses to be considered, so long as existing or proposed use does not conflict with protecting river values. The WSRA also directs building partnerships among landowners, river users, tribal nations, and all levels of government.

Beyond the immediate protection afforded to the eight rivers in the enabling legislation, the WSRA established a process for building a legacy of protected rivers. Rivers may be identified for study by an act of Congress under Section 5(a), or through federal agency-initiated study under Section 5(d)(1). By the end of 2002, Congress had authorized 138 rivers for study. Section 5(d)(1) directs federal agencies to consider the potential of WSRs in their planning processes, and its application has resulted in numerous individual river designations, and state and area-specific legislation.

Both Sections 5(a) and 5(d)(1) studies require determinations to be made regarding a river's eligibility, classification and suitability. Eligibility and classification represent an inventory of existing conditions. *Eligibility* is an evaluation of whether a river is free-flowing and possesses one or more outstandingly remarkable values (ORVs) including scenery, recreation, geology, fish and wildlife, history, cultural (prehistoric), or similar values. If found eligible, a river is analyzed as to its current level of development (water resources projects, shoreline development, and accessibility), and a recommendation is made that it be placed into one or more of three classes: wild, scenic or recreational.

The final procedural step, *suitability*, provides the basis for determining whether to recommend a river as part of the National System. A suitability analysis is designed to answer the following questions:

- Should the river's free-flowing character, water quality, and ORVs be protected, or are one or more other uses important enough to warrant doing otherwise?
- Will the river's free-flowing character, water quality, and ORVs be protected through designation? Is it the best method for protecting the river corridor? In answering these questions, the benefits and impacts of WSR designation must be evaluated and alternative protection methods considered.
- Is there a demonstrated commitment to protect the river by any non-federal entities that may be partially responsible for implementing protective management?

Rivers authorized for study by Congress are protected under the WSRA: specifically, Sections 7(b)—prevents the harmful effects of water resources projects; 8(b)—withdraws public lands from disposition under public land laws; 9(b)—withdraws locatable minerals from appropriation under mining laws; and 12(a)—directs actions of other federal agencies to protect river values. These protections last through the study process, including a three-year period following transmittal of the final study report by the President

to Congress. The integrity of the identified classification must also be maintained during the protection period.

The identification of a river for study through the forest planning process does not trigger any protections under the WSRA. To manage the river for its potential inclusion into the National System, the forest plan should provide direction using other authorities to protect its free-flowing character, water quality, ORVs, and preliminary or recommended classification. The only exception is that if Congress designates river for further study, a minerals withdrawal goes into effect while eligibility and suitability are determined.

The Forest Service does not designate rivers. Rivers are added to the National System by act of Congress or by the Secretary of the Interior. Secretarial designation requires that a river be a part of a state river protection system and the state governor to make application to the Secretary. Therefore, for those rivers undergoing suitability studies, the decision to be made in the final forest plan and EIS is whether to recommend each of these study rivers to Congress for designation as a wild and scenic river.

Study Process in southern California

Wild and scenic river planning for the southern California national forests began during the development of their original land management plans. Three rivers located within the Los Padres National Forest were designated as a result of that effort.

Big Sur River

Designation: June 19, 1992

Reach: From the confluence of the South and North Forks downstream to the boundary of the Ventana Wilderness. The South Fork and the North Fork from their headwaters to their confluence.

Classification/Mileage: Wild -- 19.5 miles; Total -- 19.5 miles.

Located in the Ventana Wilderness, this river offers outstanding opportunities for hiking, camping, swimming and fishing. It is one of the longest coastal California streams lined with redwoods.

Sespe Creek

Designation: June 19, 1992

Reach: The main stem from its confluence with Rock Creek and Howard Creek downstream to where it leaves section 26, T5N, R20W.

Classification/Mileage: Wild -- 27.5 miles; Scenic -- 4.0 miles; Total -- 31.5 miles.

Interesting geologic formations, unusual gorges, and rich riparian vegetation provide excellent scenic diversity and recreation opportunities. This stream is considered an outstanding rainbow trout fishery and provides critical habitat for the endangered California condor.

Sisquoc River

Designation: June 19, 1992

Reach: From its origin downstream to the Los Padres National Forest boundary.

Classification/Mileage: Wild -- 33.0 miles; Total -- 33.0 miles.

Most of this river lies within the San Rafael Wilderness. It offers excellent opportunities for solitude, wilderness-oriented activities, and appreciation of the outstanding scenery.

Source: www.nps.gov/ri/vers/wildri/verslist.html#ca

To date, no other rivers in the southern California national forests have been designated as WSRs. In addition, the original Los Padres National Forest plan found a 14-mile segment of Piru Creek eligible for WSR status. However, due to the close proximity of Sespe Creek with its high values and the potential

for safety problems resulting from sudden water releases, the creek was not recommended for WSR designation. The Angeles and Cleveland National Forests determined no rivers as eligible for designation in their original land management plans. The San Bernardino National Forest determined several rivers as eligible for designation in their original land management plan as follows:

Santa Ana River

Segment above South Fork: Recreational

South Fork within the San Gorgonio Wilderness: Wild

Segment between Filaree Flats and Bear Creek: Wild

Bear Creek: Wild

Whitewater River

North Fork: Wild

Middle Fork: Wild

Segments of South/East Fork: Wild

Deep Creek

Segment between Running Springs and the T-6 Road crossing: Scenic

Segment between Splinter's Cabin and Devil's Hole: Scenic

Segment between Devil's Hole and the Mojave River: Scenic

Segment above Running Springs: Recreational

Segment between the T-6 Road crossing and Splinter's Cabin: Recreational

Lytle Creek

Middle Fork within the Cucamonga Wilderness: Scenic

South Fork: Scenic

An amendment to the land management plan stated that the North Fork of the San Jacinto River and a segment of Holcomb Creek below National Forest System Road 3N16 would be re-evaluated for eligibility.

Public Law 102-301 mandated that five rivers within the Los Padres National Forest (Piru Creek – 49 miles, Little Sur – 23 miles, Matilija Creek – 16 miles, Lopez Creek – 11 miles, and Sespe Creek – 10.5 miles) be studied for eligibility and suitability. Those studies began in 1998 and are completed in this land management plan revision.

Eligibility Inventory

As a part of this land management plan revision, free-flowing streams with outstandingly remarkable values were identified in an eligibility inventory, the first phase of a two-phase study process of all rivers within the Angeles, Cleveland, Los Padres and San Bernardino National Forests. In all, 47 rivers were studied for wild and scenic river eligibility on the four southern California national forests.

In accordance with national direction and law, in order to be eligible for wild and scenic river status a river must be free-flowing and possess one or more outstandingly remarkable values (ORVs). Thus, the eligibility analysis consists of an examination of the river's hydrology, including any man-made alternations, and an inventory of its natural, cultural and recreational resources. The corridor width for study (and designated) rivers is usually ¼ mile on either side of the river, though final boundaries can and do vary from this average guideline. The determination that a river area contains ORVs was a

professional judgment on the part of the interdisciplinary study teams on the four national forests of southern California based on objective, scientific analysis, and relying on direction from the Act, the interagency guidelines, and Forest Service direction.

First, each national forest broadly screened all the rivers within its boundaries to identify the level of significance as local, regional, or national, based on geographic information system (GIS) resource mapping and specialist review. At initial public meetings, the Forest Service presented this information along with wild and scenic river background information and mapping, and asked the public: if they had additional resource information that should be considered for evaluation of river eligibility for wild and scenic designation; which value(s) should be considered "outstandingly remarkable"; how should wild and scenic rivers be managed; and what areas should be recommended for wild and scenic river designation? This resulted in identification of 47 wild and scenic river candidates either by the public or by the four southern California national forests.

Next, based on interdisciplinary study and review of each of the 47 rivers (including multiple forks and segments), all rivers found to be free-flowing and to possess one or more ORVs were determined to be eligible. Each river found eligible was then reviewed for potential classification as a wild, scenic, or recreational river. These eligibility inventories are based on Forest Service resource information or on information shared by members of the public having knowledge of individual rivers.

Using criteria in accordance with the *Wild & Scenic River Assessment Process, National direction letter of 11/21/96*, the interdisciplinary teams evaluated the resource value status of each candidate river and determined if the river had one or more outstandingly remarkable values. The direction allows criteria for additional river-related values to be developed. Accordingly, the four national forests of southern California opted to add evaluation of botanical resources and created eligibility criterion for botany modeled after criteria for wildlife. In order to be assessed as outstandingly remarkable, a river-related value must be a unique, rare or exemplary feature that is significant at a comparative regional or national scale. The criteria detailed below apply to all candidate rivers but will not be repeated in each river summary information document for the sake of brevity.

1. Scenery

Criterion: The landscape elements of landform, vegetation, water, color and related factors result in notable or exemplary visual features and/or attractions. When analyzing scenic values, additional factors such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed may be considered. Scenery and visual attractions may be highly diverse over the majority of the river or river segment.

2. Recreation

Criterion: Recreation opportunities are, or have the potential to be, unique enough to attract visitors from outside of the region of comparison. Visitors are willing to travel long distances to use the river resources for recreation purposes. River-related opportunities could include, but are not limited to, sightseeing, wildlife observation, camping, photography, hiking, hunting, and boating/rafting. Interpretive opportunities may be exceptional and attract or have the potential to attract visitors from outside the region of comparison. The river may provide or have the potential to provide settings for national or regional usage or competitive events.

3. Geology

Criterion: The river or the area within the river corridor contains an example(s) of a geological feature, process, or phenomena that is rare, unusual, or unique to the region of comparison. The feature(s) may be in an unusually active stage of development, represent a "textbook" example and/or represent a unique or rare combination of geologic features (erosional, volcanic, glacial and other geological structures).

4. Fish and Wildlife

Criterion (fish): Fish values may be judged on the relative merits of either fish populations or habitat—or a combination of these river-related conditions.

Populations: The river is nationally or regionally an important producer of resident and/or anadromous fish species. Of particular significance is the presence of wild stocks and/or federal or state listed or candidate threatened, endangered and sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

Habitat: The river provides exceptionally high quality habitat for fish species indigenous to the region of comparison. Of particular significance is habitat for wild stocks and/or federal or state listed or candidate threatened, endangered and sensitive species. Diversity of habitats is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

The study team will consider the habitat and population of each river in the context of comparison to the known populations or habitats of the team's other study rivers and apply the following additional criterion. To be outstandingly remarkable, the segment will either have the wild/heritage trout waters designation by California State Fish and Game or have the presence of threatened, endangered and sensitive fish species of regional or national significance and at least one of the following factors: 1) the largest number of mating pairs locally or regionally, or the only mating pair; or 2) multiple populations of a threatened, endangered and sensitive species; or 3) the largest or most robust populations; or 4) high diversity of rare or not rare fish species or habitats present. Known or historically occupied habitat that is still suitable is to be considered, but modeled habitat is not to be considered.

Criterion (wildlife): Wildlife values may be judged on the relative merits of either wildlife populations or habitat—or a combination of these conditions.

Populations: The river or area within the river corridor contains nationally or regionally important populations of indigenous wildlife species. Of particular significance are species considered to be unique or populations of federal or state listed or candidate threatened, endangered and sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

Habitat: The river or area within the river corridor provides exceptionally high quality habitat for wildlife of national or regional significance, or may provide unique habitat or a critical link in habitat conditions for federal or state listed or candidate threatened, endangered and sensitive species. Contiguous habitat conditions are such that the biological needs of the species are met. Diversity of habitats is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

The study team will consider the habitat and population of each river in the context of comparison to the known populations or habitats of the team's other study rivers and apply the following additional criterion. To be outstandingly remarkable, the river will have both the presence of threatened, endangered and sensitive wildlife species or habitat of regional or national significance and at least one of the following factors: 1) the largest number of mating pairs locally or regionally, or the only mating pair; or 2) multiple populations of a threatened, endangered and sensitive species; or 3) the largest or most robust populations; or 4) high diversity of rare or not rare wildlife species or habitats present. Known or historically occupied habitat that is still suitable will be considered, but modeled habitat will not be considered.

5. Heritage resources (Cultural)

Criterion: The river or area within the river corridor contains a site(s) where there is evidence of occupation or use by Native Americans. Sites must have rare or unusual characteristics or exceptional human interest value(s). Sites may have national or regional importance for interpreting prehistory; may

be rare and represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by cultural groups for rare or sacred purposes.

6. Heritage resources (Historic)

Criterion: The river or area within the river corridor contains a site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare, unusual or one-of-a-kind in the region. A historic site(s) and/or feature(s) in most cases are 50 years old or older.

7. Other (Botany)

Criterion: Botanical values may be judged on the relative merits of either plant populations or habitat—or a combination of these conditions.

Populations: The river or area within the river corridor contains nationally or regionally important populations of indigenous plant species. Of particular significance are species considered to be unique or populations of federal or state listed or candidate threatened, endangered and sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

Habitat: The river or area within the river corridor provides exceptionally high quality habitat for plants of national or regional significance, or may provide unique habitat or a critical link in habitat conditions for federal or state listed or candidate threatened, endangered and sensitive species. Contiguous habitat conditions are such that the biological needs of the species are met. Diversity of habitats is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

The study team will consider the habitat and population of each river in the context of comparison to the known populations or habitats of the team's other study rivers and apply the following additional criterion. To be outstandingly remarkable, the river will have both the presence of threatened, endangered and sensitive plants or habitat of regional or national significance and at least one of the following factors: 1) community type examples rare in Southern California (i.e., large portions of threatened, endangered and sensitive occupied montane, wet meadow habitat); or 2) multiple populations of a threatened, endangered and sensitive species; or 3) the largest or most robust populations; or 4) high diversity of rare or not rare plant species or habitats present; or 5) unique situations (i.e., rare plants in bottom reaches of river dependent upon scouring of river for seed germination). Known or historically occupied habitat that is still suitable will be considered, but modeled habitat will not be considered.

Classification

The Act and Interagency Guidelines provide the following direction for establishing preliminary classifications for eligible rivers:

Wild Rivers: Those rivers or sections of rivers that are free of impoundments and generally inaccessible, except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic Rivers: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational Rivers: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Study rivers were given a preliminary classification based on its condition and current level of development, in accordance with the table on the next page. Where levels of human activity vary within the study area, the study reach may be segmented into more than one class. Congress sometimes classifies the river at the time of designation based upon the study agency's report, but in cases where

Congress does not do this, the responsible federal agency establishes the designated river's classification(s) when promulgating its boundaries.

Attribute	Wild	Scenic	Recreational
Water Resources Development	Free of impoundment.	Free of impoundment.	Some existing impoundment diversion. The existence of low dams, diversions, or other modifications of the waterway is acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline Development	Essentially primitive. Little or no evidence of human activity. The presence of a few inconspicuous structures (particularly those of historic or cultural value) is acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production, or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the national forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Accessibility	Generally inaccessible except by trail. No roads, railroads or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the river area is acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable.

Attribute	Wild	Scenic	Recreational
Water Quality	Meets or exceeds federal criteria or federally approved state standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming), except where exceeded by natural conditions.	No criteria prescribed by the Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States be made fishable and swimmable. Therefore, rivers will not be precluded from scenic classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is developed in compliance with applicable federal and state laws.	No criteria prescribed by the Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States be made fishable and swimmable. Therefore, rivers will not be precluded from recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is developed in compliance with applicable federal and state laws.

Twenty-six rivers were determined to be free flowing and to have one or more outstandingly remarkable value and thus be eligible for addition to the National Wild and Scenic Rivers System. The following tables displays the rivers found eligible in whole or part along with mileage by potential classification:

Table 355. Candidate Wild and Scenic Rivers - Angeles National Forest

Name	Total Study Miles	Total Eligible Miles	Potential Wild Class Miles	Potential Scenic Class Miles	Potential Recreational Class Miles
Little Rock Creek	18.4	18.4		15.8	2.6
Piru Creek*	3.7	3.7			3.7
San Francisquito Creek	13.0	13.0			13.0
San Antonio Creek	7.6	3.6			3.6
San Gabriel River	35.9	35.9	8.4		27.5
Total	78.6	74.6	8.4	15.8	50.4

* segment 5 only

Table 356. Candidate Wild and Scenic Rivers - Cleveland National Forest

Name	Total Study Miles	Total Eligible Miles	Potential Wild Class Miles	Potential Scenic Class Miles	Potential Recreational Class Miles
Cottonwood Creek	26.0	11.9			11.9
San Luis Rey	14.1	3.4			3.4
San Mateo Creek	15.3	15.3	15.3		
Totals	55.4	30.6	15.3	0.0	15.3

Table 357. Candidate Wild and Scenic Rivers - Los Padres National Forest

Name	Total Study Miles	Total Eligible Miles	Potential Wild Class Miles	Potential Scenic Class Miles	Potential Recreational Class Miles
Arroyo Seco River	18.4	18.4	2.5	10.5	5.4
Little Sur River	24.8	8.2	4.9		3.3
San Antonio River	8.6	8.6	7.6	1.0	
Piru Creek*	53.6	53.6	23.2	28.0	2.4
Upper Sespe Creek	21.3	11.5		2.0	9.5
Indian Creek	14.7	14.7	14.7		
Mono Creek	24.2	24.2	4.5	19.7	
Totals	165.6	139.2	57.4	61.2	20.6

* segments 1-4, 6, 7

Table 358. Candidate Wild and Scenic Rivers - San Bernardino National Forest

Name	Total Study Miles	Total Eligible Miles	Potential Wild Class Miles	Potential Scenic Class Miles	Potential Recreational Class Miles
Lytle Creek	23.6	2.4		2.4	
Whitewater River	26.1	25.6	25.6		
Bear Creek	9.3	8.9		8.9	
Deep Creek	21.4	19.7	9.0	10.7	
Fish Creek	5.2	3.6	3.6		
Holcomb Creek	15.1	15.1	5.8		9.3
Santa Ana River	30.6	19.8	2.4	3.5	13.9
Siberia Creek	3.0	3.0		3.0	
Bautista Creek	13.4	13.4			13.4
Fuller Mill Creek	3.4	3.4			3.4
Palm Canyon	13.1	8.1	8.1		
San Jacinto River	12.6	11.4	2.3		9.1
Totals	176.8	134.4	56.8	28.5	49.1

Only those rivers found eligible will proceed to the suitability study phase.

Suitability

The final phase of study addresses the suitability of a river for inclusion in the National Wild and Scenic Rivers System. The Los Padres National Forest prepared suitability studies for seven rivers determined eligible on that national forest, including evaluation for suitability under the alternatives developed for this forest plan revision. The seven rivers studied are all or portions of the Arroyo Seco River, Indian Creek, Little Sur River, Mono Creek, upper Piru Creek, San Antonio River, and upper Sespe Creek. Only the lower segments of the Piru Creek remain to be studied for suitability. This appendix contains comparative detail by river, classification and alternative.

Table 336. Recommended Wild and Scenic River Mileage by Classification and Alternative (Los Padres National Forest)

Classification	Miles Eligible by Potential Classification	Alt 1	Alt 2	Alt 3	Alt 4 and 4a	Alt 5	Alt 6
Wild	44.7	0.0	27.1	37.1	13.0	0.0	44.7
Scenic	65.3	0.0	65.3	60.2	40.5	0.0	61.2
Recreational	18.2	0.0	9.5	18.2	14.9	0.0	18.2
Total Miles	124.1	0.0	101.9	115.5	68.4	0.0	124.1

A description of the alternatives, including river classification and miles recommended, can be found in Chapter 2 of this FEIS (see table 336, Recommended Wild and Scenic River Mileage by Classification and Alternative (Los Padres National Forest)). In addition, the effects of designation of the rivers recommended to Congress under each alternative are described and analyzed in the applicable sections in Chapter 3.

The suitability study phase will be initiated at a later date for the 20 eligible rivers on the Angeles, Cleveland, Los Padres, and San Bernardino National Forests. However, the forest plan will provide management direction to protect the free-flowing character, potential classification, and outstandingly remarkable values of eligible rivers until a suitability study is completed and final recommendation to Congress regarding river designation is made.

Wild and Scenic River Study Documentation

Each of the 47 candidate rivers evaluated has a Summary Information Document that provides a synopsis of the pertinent information related to eligibility, classification and/or suitability (as applicable). All Summary Information Documents are available in the Reading Room on the forest Web sites, [www. fs. fed. us/r5/angel es/projects/l mp](http://www.fs.fed.us/r5/angel es/projects/l mp), [www. fs. fed. us/r5/cl evel and/projects/l mp](http://www.fs.fed.us/r5/cl evel and/projects/l mp), [www. fs. fed. us/r5/l ospadres/projects/l mp](http://www.fs.fed.us/r5/l ospadres/projects/l mp), or [www. fs. fed. us/r5/sanbernardi no/projects/l mp](http://www.fs.fed.us/r5/sanbernardi no/projects/l mp).

This Environmental Impact Statement appendix includes the Summary Information Documents for the suitability studies undertaken by the Los Padres National Forest and the summary tables for all the candidate rivers. Due to budget constraints, not all the Summary Information Documents are published in the print version.

Summary of Wild and Scenic River Eligibility Inventory by Forest

The following tables summarize the key data and findings of the eligibility inventories completed on the four southern California national forests. W = Wild class, S = Scenic class, R = Recreation class

Table 164. Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, ANF

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free flow
						Private	Other	NFS			
Mojave/Santa Clarita Rivers Ranger District											
Elizabeth Lake Creek	14.2		1	14.2	0.0	0.0	0.0	0.0	N/A	N/A	N
Little Rock Creek	18.4	Main	1	15.8	15.8	0.0	0.0	15.8	S	Fish&Wildlife	Y
		Cooper	2	2.6	2.6	0.0	0.0	2.6	W	Fish&Wildlife	Y
Piru Creek	3.7		5	3.7	3.7	0.0	0.0	3.7	R	Geology	Y
San Francisquito Creek	13.0	Upper	1	8.4	8.4	2.5	0.0	5.9	R	Fish&Wildlife	Y
		Lower	2	4.6	4.6	1.3	0.0	3.3	R	Geology, Fish&Wildlife, Historic	Y
San Gabriel River Ranger District											
San Antonio Creek	7.6	Upper	1	3.6	3.6	0.1	0.0	3.5	R	Scenery, Recreation	Y
		Lower	2	4.0	0.0	0.0	0.0	0.0	N/A	N/A	N
San Gabriel River	4.2	North	1	4.2	4.2	0.0	0.0	4.2	R	Fish&Wildlife	Y
	15.7	East	1	8.4	8.4	0.3	0.0	8.1	W	Scenery, Recreation, Fish&Wildlife, Historic	Y
			2	7.3	7.3	1.3	0.0	6.0	R	Fish&Wildlife, Historic	Y
	16.0	West	1	8.6	8.6	0.0	0.0	8.6	R	Fish&Wildlife, Recreation	Y
			2	7.4	7.4	0.0	0.0	7.4	R	Recreation	Y
Los Angeles River Ranger District											
Arroyo Seco Creek	14.4	Upper	1	8.2	0.0	0.0	0.0	0.0	N/A	None	Y
		Lbear	2	2.0	0.0	0.0	0.0	0.0	N/A	None	Y
		Bear	3	2.7	0.0	0.0	0.0	0.0	N/A	None	Y
		Lower	4	1.5	0.0	0.0	0.0	0.0	N/A	None	Y
Big Santa Anita Creek	9.8	Main	1	3.5	0.0	0.0	0.0	0.0	N/A	None	Y
		North	2	0.7	0.0	0.0	0.0	0.0	N/A	None	Y
		East	3	2.6	0.0	0.0	0.0	0.0	N/A	None	Y
		Winter	4	3.0	0.0	0.0	0.0	0.0	N/A	None	Y

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free flow
						Private	Other	NFS			
Big Tujunga River	33.6	Upper	1	13.9	0.0	0.0	0.0	0.0	N/A	N/A	N
		Fox	2	7.3	0.0	0.0	0.0	0.0	N/A	None	Y
		Lower	3	8.0	0.0	0.0	0.0	0.0	N/A	N/A	N
		Trail	4	4.4	0.0	0.0	0.0	0.0	N/A	None	Y
Totals	150.6			150.6	74.6	5.5	0.0	69.1			

Table 165. Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, CNF

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free flow
						Private	Other	NFS			
Descanso Ranger District											
Boulder Creek	9.2		1	9.2	0.0	0.0	0.0	0.0	N/A	N/A	N
Cedar Creek	12.5		1	12.5	0.0	0.0	0.0	0.0	N/A	None	Y
Cottonwood Creek	26.0		1	11.9	11.9	6.1	0.0	5.8	R	Cultural	Y
			2	14.1	0.0	0.0	0.0	0.0	N/A	None	Y
Noble Canyon Creek	4.8		1	4.8	0.0	0.0	0.0	0.0	N/A	None	Y
Pine Valley Creek	24.8		1	24.8	0.0	0.0	0.0	0.0	N/A	None	Y
San Diego River	11.1		1	11.1	0.0	0.0	0.0	0.0	N/A	None	Y
Palomar Ranger District											
Main San Luis Rey River	3.4	Main	1	3.4	3.4	2.0	0.0	1.4	R	Fish&Wildlife	Y
Upper San Luis Rey River	3.3	Upper	1	3.3	0.0	0.0	0.0	0.0	N/A	None	Y
West San Luis Rey River	7.4	West	1	7.4	0.0	0.0	0.0	0.0	N/A	None	Y
Trabuco Ranger District											
San Juan Creek	6.6		1	6.6	0.0	0.0	0.0	0.0	N/A	None	Y
San Mateo Creek and Devil Canyon	15.3	Main	1	11.9	11.9	0.0	0.3	11.6	W	Fish&Wildlife, Botany	Y
		Devil	2	3.4	3.4	0.0	0.7	2.7	W	Fish&Wildlife, Botany	Y
Trabuco Creek	5.5		1	2.1	0.0	0.0	0.0	0.0	N/A	None	Y
			2	3.4	0.0	0.0	0.0	0.0	N/A	None	Y
Totals	129.9			129.9	30.6	8.1	1.0	21.5			

Table 166. Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, LPNF

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free Flow
						Private	Other	NFS			
Monterey Ranger District											
Arroyo Seco River	18.4		1	2.5	2.5	0.0	0.0	2.5	W	Scenery, Recreation, Geology, Fish&Wildlife	Y
			2	0.5	0.5	0.0	0.0	0.5	R	Scenery, Recreation, Geology, Fish&Wildlife	Y
			3	10.5	10.5	0.0	0.0	10.5	S	Scenery, Recreation, Geology, Fish&Wildlife	Y
			4	4.9	4.9	1.3	0.0	3.6	R	Scenery, Recreation, Geology, Fish&Wildlife	Y
Carmel River	9.2		1	9.2	0.0	0.0	0.0	N/A	None	Y	
Little Sur River	24.8	North	1	4.9	4.9	0.0	0.0	4.9	W	Botany	Y
			2	3.3	3.3	2.1	0.0	1.2	R	Botany	Y
			3	4.2	0.0	0.0	0.0	0.0	N/A	None	Y
		South	4	10.4	0.0	0.0	0.0	0.0	N/A	None	Y
		Main	5	2.0	0.0	0.0	0.0	0.0	N/A	None	Y
San Antonio River	8.6		1	7.6	7.6	0.0	0.0	7.6	W	Scenery, Cultural, Historic	Y
			2	1.0	1.0	0.0	0.0	1.0	S	Scenery, Cultural, Historic	Y
Tassajara Creek	10.4		1	5.4	0.0	0.0	0.0	0.0	N/A	None	Y
			2	0.8	0.0	0.0	0.0	0.0	N/A	None	Y
			3	4.2	0.0	0.0	0.0	0.0	N/A	None	Y

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free Flow
						Private	Other	NFS			
Mount Pinos Ranger District											
Piru Creek	53.6		1	5.8	5.8	0.0	0.0	5.8	W	Recreation, Geology, Fish&Wildlife, Cultural	Y
			2	20.4	20.4	1.8	0.0	18.6	S	Recreation, Geology, Fish&Wildlife, Cultural	Y
			3	4.7	4.7	0.0	0.0	4.7	W	Recreation, Geology, Fish&Wildlife, Cultural	Y
			4	7.6	7.6	0.8	0.0	6.8	S	Recreation, Geology, Fish&Wildlife, Cultural	Y
			6	12.7	12.7	0.0	0.0	12.7	W	Geology	Y
			7	2.4	2.4	1.0	0.0	1.4	R	Geology	Y
Ojai Ranger District											
Matilija Creek	17.9		1	9.1	0.0	0.0	0.0	0.0	N/A	None	Y
			2	1.7	0.0	0.0	0.0	0.0	N/A	None	Y
			North	3	7.1	0.0	0.0	0.0	0.0	N/A	None
Santa Paula Creek	12.1		1	6.3	0.0	0.0	0.0	0.0	N/A	None	Y
			2	2.7	0.0	0.0	0.0	0.0	N/A	None	Y
			East	3	3.1	0.0	0.0	0.0	0.0	N/A	None
Upper Sespe Creek	21.3		1	9.8	0.0	0.0	0.0	0.0	N/A	None	Y
			2	9.5	9.5	1.1	0.0	8.4	R	Scenery, Recreation, Fish&Wildlife	Y
			3	2.0	2.0	0.0	0.0	2.0	S	Scenery, Recreation, Fish&Wildlife	Y
Santa Barbara Ranger District											
Indian Creek	14.7		1	9.6	9.6	0.0	0.0	9.6	W	Geology, Fish&Wildlife, Cultural	Y
			2	5.1	5.1	0.0	0.1	5.0	W	Geology, Fish&Wildlife	Y
Mono Creek	24.2		1	4.5	4.5	0.0	0.0	4.5	W	Fish&Wildlife	Y
			2	19.7	19.7	0.6	0.0	19.1	S	Fish&Wildlife	Y
Santa Cruz Creek	15.0	East	1	7.1	0.0	0.0	0.0	0.0	N/A	None	Y
		West	2	4.7	0.0	0.0	0.0	0.0	N/A	None	Y
			3	3.2	0.0	0.0	0.0	0.0	N/A	None	Y

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free Flow
						Private	Other	NFS			
Santa Ynez River	26.1		1	3.2	0.0	0.0	0.0	0.0	N/A	None	Y
			2	11.8	0.0	0.0	0.0	0.0	N/A	N/A	N
			3	11.1	0.0	0.0	0.0	0.0	N/A	N/A	N
Santa Lucia Ranger District											
La Brea Creek	29.0	North	1	12.3	0.0	0.0	0.0	0.0	N/A	None	Y
			2	13.1	0.0	0.0	0.0	0.0	N/A	None	Y
		South	3	3.6	0.0	0.0	0.0	0.0	N/A	None	Y
Lopez Creek	11.5		1	6.7	0.0	0.0	0.0	0.0	N/A	None	Y
			2	1.1	0.0	0.0	0.0	0.0	N/A	None	Y
			3	3.7	0.0	0.0	0.0	0.0	N/A	None	Y
Manzana Creek	18.4		1	18.4	0.0	0.0	0.0	0.0	N/A	None	Y
Sisquoc River	4.2	South	1	4.2	0.0	0.0	0.0	0.0	N/A	None	Y
Totals	319.4			319.4	139.2	8.7	0.1	130.4			

Table 167. Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, SBNF

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free flow
						Private	Other	NFS			
Front Country Ranger District											
Lytle Creek	11.4	North	1a	9.7	0.0	0.0	0.0	0.0	N/A	None	Y
			1b	1.7	0.0	0.0	0.0	0.0	N/A	N/A	N
	7.3	Mid	1	1.4	0.0	0.0	0.0	0.0	N/A	None	Y
			2	2.4	2.4	0.0	0.0	2.4	S	Fish&Wildlife	Y
			3a	2.9	0.0	0.0	0.0	0.0	N/A	None	Y
			3b	0.6	0.0	0.0	0.0	0.0	N/A	N/A	N
4.9	South	1	4.9	0.0	0.0	0.0	0.0	N/A	None	Y	
Whitewater River	5.8	North	1	5.8	5.8	0.0	0.0	5.8	W	Scenery, Fish&Wildlife	Y
	5.3	Mid	1	5.3	5.3	1.5	0.0	3.8	W	Scenery, Fish&Wildlife	Y
	15.0	South	1	2.8	2.8	0.0	0.0	2.8	W	Scenery, Fish&Wildlife	Y
			2	0.3	0.0	0.0	0.0	0.0	N/A	N/A	N
			3	8.0	8.0	2.2	0.0	5.8	W	Scenery, Fish&Wildlife	Y
		E of S	4	2.3	2.3	0.0	0.0	2.3	W	Scenery, Fish&Wildlife	Y
	5		0.2	0.0	0.0	0.0	0.0	N/A	N/A	N	
6	1.4	1.4	0.0	0.0	1.4	W	Scenery, Fish&Wildlife	Y			

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free flow
						Private	Other	NFS			
Mountaintop Ranger District											
Bear Creek	9.3		1	8.9	8.9	0.0	0.0	8.9	S	Recreation, Fish&Wildlife	Y
			2	0.4	0.0	0.0	0.0	0.0	N/A	None	Y
Deep Creek	21.4		1a	1.4	0.0	0.0	0.0	0.0	N/A	None	Y
			1b	0.3	0.0	0.0	0.0	0.0	N/A	N/A	N
			2	10.7	10.7	0.0	0.0	10.7	S	Scenery, Recreation, Fish&Wildlife, Cultural, Botany	Y
			3	9.0	9.0	0.0	0.0	9.0	W	Scenery, Recreation, Geology, Fish&Wildlife, Cultural, Botany	Y
Fish Creek	5.2		1	3.6	3.6	0.0	0.0	3.6	W	Botany	Y
			2	1.6	0.0	0.0	0.0	0.0	N/A	None	Y
Holcomb Creek	15.1		1	9.3	9.3	0.0	0.0	9.3	R	Scenery, Fish&Wildlife, Botany	Y
			2	5.8	5.8	0.0	0.0	5.8	W	Scenery, Fish&Wildlife, Botany	Y
Santa Ana River	30.6	South	1	2.4	2.4	0.0	0.0	2.4	W	Scenery, Recreation, Fish&Wildlife, Botany	Y
			2	2.3	0.0	0.0	0.0	0.0	N/A	N/A	N
		Main	3	13.9	13.9	1.8	0.0	12.1	R	Scenery, Recreation, Fish&Wildlife, Historic, Botany	Y
			4	3.5	3.5	0.4	0.0	3.1	S	Scenery, Recreation, Fish&Wildlife, Historic, Botany	Y
			5	8.5	0.0	0.0	0.0	0.0	N/A	N/A	N
Siberia Creek	3.0		1	3.0	3.0	0.0	0.0	3.0	S	Botany	Y
San Jacinto Ranger District											
Bautista Creek	13.4		1	13.4	13.4	1.7	1.3	10.4	R	Fish&Wildlife, Heritage, Cultural, Botany	Y
Fuller Mill Creek	3.4		1	3.4	3.4	1.1	0.4	1.9	R	Fish&Wildlife	Y
Palm Canyon Creek	13.1		1	5.0	0.0	0.0	0.0	0.0	N/A	None	Y
			2	8.1	8.1	0.5	0.0	7.6	W	Scenery, Cultural, Botany	Y

Name	Total Study Miles	Fork	Segment No.	Segment Miles	Total Eligible Miles	Eligible Mileage by Land Owner			Potential Class	Outstandingly Remarkable Values	Free flow
						Private	Other	NFS			
San Jacinto River	12.6	North	1	2.3	2.3	0.0	2.3	0.0	W	Scenery, Fish&Wildlife	Y
			2	9.1	9.1	1.6	0.0	7.5	R	Scenery, Fish&Wildlife	Y
			3	1.2	0.0	0.0	0.0	0.0	N/A	N/A	N
Totals	176.8			176.8	134.4	10.8	4.0	119.6			

Recommended Wild and Scenic Rivers by Alternative

As a part of this analysis, the Los Padres National Forest prepared suitability studies for the seven rivers found eligible for wild and scenic river designation on that national forest. This appendix contains the Suitability Report, which describes in detail the anticipated effects of designation or non-designation of each river with respect to the six suitability factors referred to in Section 4 of the Wild and Scenic Rivers Act. If the management alternative selected recommends a river for WSR designation, that river would be protected at its recommended classification pending Congressional decision.

Whether a river (or selected river segments) is recommended for designation in a given alternative is a reflection of the alternative theme and evaluation of the suitability factors, recognizing other possible combinations for a particular river may exist. Given the theme of the alternatives, Alternatives 1 and 5 recommend designation of no new wild and scenic rivers. Alternative 2 recommends for designation key wild and scenic rivers and classifications that provide a balance of recreation and scenery values in order to protect and enhance the free-flowing character, water quality and outstandingly remarkable values while minimizing conflicts and loss of other uses. Alternative 3 recommends for designation a significant number of wild and scenic rivers, emphasizing botany, fisheries and wildlife outstandingly remarkable values. Classifications balance the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable values with the conservation of a wide range of wildlife and plant species (especially threatened, endangered and sensitive species) and habitats, biodiversity, linkages and corridors. Alternative 4 recommends for designation a few wild and scenic rivers, emphasizing recreation and/or scenery as outstandingly remarkable values. Classifications recognize the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable values. Alternative 6 recommends for designation a significant number of wild and scenic rivers that contain outstandingly remarkable values that protect and enhance a wide range of values and features, including species conservation, biodiversity, open space, natural beauty, recreation and research. The seven rivers each have multiple river segments and three possible classifications, thus presenting several possibilities for structuring alternatives at the land management plan level. A stream might be shown with a wild river classification in one alternative, a scenic river classification in another alternative, and may not be included in another alternative.

Alternative 1 recommends designation of no new miles.

Alternative 2 recommends designation of segments of Arroyo Seco River, Piru Creek, Upper Sespe Creek, Indian Creek, and Mono Creek, for a total of 101.9 miles.

Alternative 3 recommends designation of all eligible segments of Arroyo Seco River, Little Sur River, Piru Creek, Upper Sespe Creek, Indian Creek, and Mono Creek, for a total of 115.5 miles.

Alternative 4 recommends designation of all eligible segments of Arroyo Seco River, Piru Creek, and Upper Sespe Creek, for a total of 68.4 miles.

Alternative 4a recommends the same designations as Alternative 4.

Alternative 5 recommends designation of no new miles.

Alternative 6 recommends designation of all eligible segments of Arroyo Seco River, Little Sur River, San Antonio River, Piru Creek, Upper Sespe Creek, Indian Creek, and Mono Creek, for a total of 124.1 miles.

See table 103: Suitability Study Summary for Candidate Wild and Scenic Rivers, LPNF.

Any management activities within a river corridor must be consistent with the protection and enhancement of the river’s free flow and outstandingly remarkable values in order for the river to maintain its eligibility. The types and amounts of activities and changes acceptable within a river corridor depend on whether it is recommended as a wild, scenic, or recreational river. Because effects of land management plan alternatives are not site specific, it is not possible to describe precisely how an individual stream may be affected by future projects, since the exact locations and designs of those projects are not yet determined; however, it is possible to analyze the environmental consequences of the alternatives based on the differences in recommended mileage and classification, along with consideration of the protection measures and general restrictions on management activities associated with each class of WSR.

The effects of the designation of recommended wild and scenic river mileage in each alternative are described in Chapter 3 of the FEIS in the section of the resource being affected.

Table 103. Suitability Study Summary for Candidate Wild and Scenic Rivers, LPNF - Miles Recommended by Alt and Classification

River Name	Eligible Miles	Segment No.	Alt 1	Alt 2	Alt 3	Alt 4 and 4a	Alt 5	Alt 6
Arroyo Seco River	18.4	1	0.0	2.5 W	2.5 W	2.5 W	0.0	2.5 W
		2	0.0	0.0	0.5 R	0.5 R	0.0	0.5 R
		3	0.0	10.5 S	10.5 S	10.5 S	0.0	10.5 S
		4	0.0	0.0	4.9 R	4.9 R	0.0	4.9 R
Indian Creek	14.7	1	0.0	9.6 W	9.6 W	0.0	0.0	9.6 W
		2	0.0	5.1 S	5.1 W	0.0	0.0	5.1 W
Little Sur River	8.2	1	0.0	0.0	4.9 W	0.0	0.0	4.9 W
		2	0.0	0.0	3.3 R	0.0	0.0	3.3 R
Mono Creek	24.2	1	0.0	4.5 W	4.5 W	0.0	0.0	4.5 W
		2	0.0	19.7 S	19.7 S	0.0	0.0	19.7 S
Piru Creek	38.5	1	0.0	5.8 W	5.8 W	5.8 W	0.0	5.8 W
		2	0.0	20.4 S	20.4 S	20.4 S	0.0	20.4 S
		3	0.0	4.7 W	4.7 W	4.7 W	0.0	4.7 W
		4	0.0	7.6 S	7.6 S	7.6 S	0.0	7.6 S
San Antonio River	8.6	1	0.0	0.0	0.0	0.0	0.0	7.6 W
		2	0.0	0.0	0.0	0.0	0.0	1.0 S
U. Sespe Creek	11.5	2	0.0	9.5 R	9.5 R	9.5 R	0.0	9.5 R
		3	0.0	2.0 S	2.0 S	2.0 S	0.0	2.0 S
Total Miles	124.1		0.0	101.9	115.5	68.4	0.0	124.1

W=Wild river; S=Scenic river; R=Recreational river

Study Reports (Los Padres National Forest)

Arroyo Seco River

Study Area Summary

In November of 1993, the Los Padres National Forest published Amendment No. 2 to the Forest Land and Resource Management Plan identifying the Arroyo Seco River for eligibility and suitability evaluation as a potential addition to the National Wild and Scenic River System.

Name of River: Arroyo Seco River

Location: State of California, Monterey County, Los Padres National Forest

The Arroyo Seco River is considered to be free flowing below a point in the Ventana Wilderness along the east flank of the Santa Lucia Range (southeastern one-quarter of T21S, R4E, Sec 14, MDBM) and flows in a northerly direction leaving the Los Padres National Forest at the southeastern boundary of T19S, R5E, Sec 31. For the purposes of this study, the Arroyo Seco River was divided into four segments.

Segment 1: This segment includes the Arroyo Seco River from its headwaters to the Sportsman's Lodge. This segment is within the Ventana Wilderness Area.

Segment 2: A length of river 0.25 miles upstream and downstream of the impoundment at the Sportsman's Lodge located in T21S, R5E, Sec 7. This segment is outside of the Ventana Wilderness Area.

Segment 3: Beginning 0.25 miles downstream of the impoundment at the Sportsman's Lodge to the wilderness boundary located in T20S, R4E, Sec 2.

Segment 4: Beginning at the wilderness boundary to the administrative boundary located along the eastern boundary of T19S, R5E, Sec 31.

River Mileage:

River Segment	Miles	Boundaries	Ownership	Zoning/Land Use
1	0 - 2.5	Headwaters to Sportsman's Lodge	NFS (781 acres)	Wilderness
2	2.5 - 3.0	Sportsman's Lodge permit area	NFS (149 acres)	NFS: Organization Camp permit
3	3.0 - 13.5	Sportsman's Lodge to Wilderness boundary	NFS (2965 acres)	Wilderness; dispersed recreation.
4	13.5- 18.4	Wilderness boundary to NF boundary	NFS (1063 Acres) and non-federal (344 acres)	NFS: developed and dispersed recreation. Non-federal: rural and residential

Studied: 18.4 miles

Eligible: 18.4 miles

Eligibility Inventory

Determination of Free Flow:

There are no impoundments in segments 1, 3 and 4; the river is free flowing in these segments. In segment 2 there is a run of the river impoundment adjacent to the Sportsman's Lodge. The structure consists of a concrete foundation with slats to seasonally impound the river (the current use of the structure is unknown). Segment 2 is also considered to be free flowing.

Determination of Outstandingly Remarkable Values (ORVs):

1. Scenery

Description: Approximately 80 percent of the Arroyo Seco River is scenic attractiveness class "A" landscape, within the Southwest Mountain and Valley Character Type. It is distinctive primarily because of the presence of water, although many sections contain remarkable examples of landform, rocks and riparian vegetation.

The headwaters to Forks Camp offer undisturbed views of the Pacific Ocean and Sierra Peak. There is little presence of water and views of steep landscapes and hardwoods. At Forks Camp, the land flattens with views of meadows and many tributaries into the stream. Here you begin to hear the river, pools form among large granite boulders. Hardwoods line the river, but views are of slopes covered with chaparral. As the river flows further, there are abundant trees and tall ferns. The vegetation and deep pools are the features of this section, with seasonal color adding variety to the experience. At Lost Valley Trail, the boulders are smaller but many, and the river becomes a fifty foot channel with deep gorges. The gorges are 500 to 600 feet deep with nearly vertical walls. The drama is like being in a grand canyon. Some pools in this section are 300 feet deep.

At the Horse Bridge, the gorges open up and large boulders are scattered through the river. Grass slopes are visible through riparian vegetation as the bridge arches over the river. The next section of the river is punctuated with rapids, 50-foot gorges, small beaches and a multitude of twists and turns. The views from the river are of steep slopes with some rock outcrops. Next appears an 800-foot gorge with steep walls of limestone and red colors in horizontal lines. The river finally opens wide into the recreation area and is more like a park in appearance.

Most noteworthy throughout the river is the overall ruggedness, with a combination of oaks, sycamores and riparian vegetation, especially around deep pools. Overall, the rugged appearance leaves a feeling of the power of the river.

Determination: The scenic features of Arroyo Seco River are considered to be outstandingly remarkable because of the combination of steep canyon walls, gorges, rock outcrops, and jumbles of boulders that create pools, and dramatic sounds within a dynamic scenic setting.

2. Recreation:

Description: Recreation use is heavy in the Arroyo Seco River corridor, especially in the Arroyo Seco Recreation Area. Near its source the river is a rushing stream that slices through dry, brush-covered mountains. Narrow gorges hide cool, dark pools. Waterfalls spill down flume-like channels in sandstone.

The extreme change in elevation creates much of the scenic beauty that recreationists enjoy. From Junipero Serra Peak to the Arroyo Seco canyon bottom is more than a 5,000-foot elevation change.

Although there is no trail that follows the entire stretch of the Arroyo Seco River, there are many well-used access points via the Arroyo Seco-Indians Road. At one end of the Arroyo Seco-Indians Road, the Arroyo Seco Trail follows the upper reaches of the river, intersecting at the Coast Ridge Trail. The Lost Valley Trail starts at the Escondido Campground.

Marble Peak Trailhead is located at the Horse Bridge near the confluence of Tassajara Creek and the Arroyo Seco River. There are large pools both upstream and downstream from this point. It is common on weekends to have 30 vehicles parked at the Marble Peak Trailhead. At least 50 percent of these vehicles are associated with national forest visitors who come for day use type of activities along the river.

The Arroyo Seco Gorge area is very popular for sunbathing and swimming. Many visitors find relative isolation from administrative controls in the gorge area, and they use the area as an alternative location to

recreate with a minimum of regulatory interferences. There is no designated trail leading to the gorge at this time. The attraction of the river is so strong that national forest visitors will travel cross-country down steep, unstable slopes to reach the river.

The most popular access point for recreation is at the Arroyo Seco day use area. Once again, the main attraction is the Arroyo Seco River not only for the day use site but also for national forest visitors who camp in the overnight campground. The most common recreation activities are picnicking, swimming and sunbathing on the sandy beaches. The managed use season is year-round and use has averaged 50,000 Recreation Visitor Days (RVDs) per year since 1982. The area had a history of use of over 1,000 people per weekend. The day use area has recently been rehabilitated and provides for 900 people at one time (PAOT). An estimated 70 percent of the visitors are from Monterey County and an additional 20 percent are from surrounding counties within a 150-mile radius.

Determination: The recreation opportunities are considered to be outstandingly remarkable. The environmental space is inspiring, and the scale and contrast offer a feeling of insignificance. This is especially true in many sections of the gorge area and the many deep pools upstream. Steep cliffs and deep pools for swimming are unusual in a predominantly chaparral landscape.

3. Geology

Description: The Monterey District of the Los Padres National Forest is in the southern Coast Ranges of California. This is a geologically young mountain range that was uplifted to its present height about 400,000 years ago. The range includes Mesozoic age rocks that represent a subduction zone complex (the Franciscan Complex), a magmatic arc (plutonic and metamorphic rocks of the Salinian Block) and forearc basin sediments (the Great Valley Sequence). It also includes younger Tertiary marine sediments and Quaternary largely non-marine sediments. The majority of the Monterey District is part of the Salinian Block. The Arroyo Seco, Carmel, Little Sur and San Antonio Rivers, and Tassajara Creek primarily flow through the basement rocks of this block.

Arroyo Seco River first flows generally northeast and perpendicular to beds of Cretaceous and Tertiary marine sedimentary rocks. It then bends to flow northwest, apparently controlled by the contact between the Tertiary Reliz Canyon Formation and Rincon Shale. Further downstream along this trend it flows through exposed Salinian Block basement rocks (granite and Mesozoic or older metasedimentary rocks) and Franciscan Complex rocks. A landslide is located adjacent to the stream in the southwest one-quarter of the Junipero Serra Peak quad. This feature is in an area with abundant shale units (Church Creek Formation, Rincon Shale and the Lucia Shale member of the Reliz Canyon Formation) and the highly fractured Franciscan Complex. Beyond this, the river flows northwest and then north into mostly Mesozoic or older metasedimentary rocks and granite in the Tassajara Hot Springs quad. A fault deflects the course of the river into a northeast trend (in the Junipero Serra Peak quad) through the metasedimentary rocks. From the area near The Lakes to the national forest boundary it flows east through steeply dipping Tertiary sedimentary rocks (Vaqueros Sandstone and the Mint Canyon, Monterey and Berry formations).

Determination: The river corridor possesses outstandingly remarkable geologic values. The Salinian Block is unique because it appears to have been displaced 200 kilometers northwestward along the San Andreas Fault from its original position between the Sierra Nevada and the Peninsular Ranges. Rocks in the Salinian Block have been structurally deformed by en echelon faults and folds as a result of transform (strikeslip) faulting. The Salinian Block also has anomalous seismic properties that show in a marked decrease in seismic amplitudes. One possible explanation is that the Franciscan Complex underlies the block. The Salinian Block is significant at the central and southern California geographic level.

4. Fish and Wildlife

Description: The Arroyo Seco River flows year-round through large areas of open oak woodlands separated by low ridges mostly covered in chaparral. Along the river course, habitat types primarily consist of riparian and mixed hardwoods, such as white alder, live oak, sycamore, and California laurel.

The Arroyo Seco is the first major spawning tributary that California South-Central Coast evolutionarily significant unit steelhead (*Oncorhynchus mykiss*), a federally threatened species, can access as they move up the Salinas drainage from the Pacific Ocean. The Arroyo Seco (excluding its tributaries) provides 4.5 miles of steelhead habitat on the Los Padres National Forest, from the national forest boundary upstream to an identified fish barrier one and one half mile upstream from the confluence with Willow Creek. This habitat is within study segment 4. Steelhead have access to high quality spawning areas in Santa Lucia Creek, Tassajara Creek, and Willow Creek, all of which are tributaries to the Arroyo Seco below the identified barrier. The Arroyo Seco upstream of the barrier, as well as tributaries to this upper reach (Segments 1 and 2), provide excellent trout habitat, but are not accessible to steelhead.

Downstream of the Los Padres National Forest boundary, steelhead habitat has been severely degraded by water diversions, road crossings, groundwater pumping for agricultural uses (especially newly created, large vineyards) and housing, and pesticide contamination. River corridor conditions on the Los Padres National Forest are relatively pristine, and represent some of the last remaining intact steelhead habitat in the larger Salinas River Drainage.

The riparian corridor along the Arroyo Seco River provides habitat for the California spotted owl (*Strix occidentalis occidentalis*), a Region 5 sensitive species, for foraging and nesting. In 1993, a pair of owls was found within the gorge area of the Arroyo Seco River.

Southern Pacific pond turtles (*Actinemys marmorata pallida*), a Region 5 sensitive species, are found in suitable habitats within the upper tributaries of the Arroyo Seco River around Memorial Campground. Suitable habitat for this species occurs throughout the Arroyo Seco River from Memorial Park to the boundary of the Los Padres National Forest.

Determination: The habitat for federally threatened steelhead is considered to be outstandingly remarkable. The Arroyo Seco River is the middle link of an anadromous fishery continuum between the Tassajara Creek, Salinas River and Pacific Ocean.

5. Heritage resources (Cultural)

Description: The knowledge of the span and complexity of Native American use of the Arroyo Seco River corridor is good and several sites are known to be located within the corridor. The Native American sites recorded represent a diversity of site types that have the potential to contribute information regarding such topics as manufacturing techniques, food processing, diet, and trade as well as the everyday life of the Native American inhabitants of the corridor. Sites in the area attest to the use of the area by the Esselen and Salinan people with many of the sites known in ethnographic times. One site has been listed on the National Register of Historic Places for local and regional significance (but the integrity of the site has been severely compromised by looting and scientific excavation). But on a whole, the sites and features recorded within the corridor are common in the local area and region, and as such, they are not rare or unique or have national or regional importance for interpreting prehistory.

Determination: Cultural values are not considered to be outstandingly remarkable.

6. Heritage resources (Historic)

Description: The Arroyo Seco River has had an important span of historic use. The Arroyo Seco Guard Compound represents a good example of Forest Service Administrative History. Also known for the area are the remains associated with the Civilian Conservation Corps, hunting and fishing, and youth recreation camps. These sites (as well as other historic sites expected to occur) are not rare, unique or noteworthy enough to have significance beyond the local level.

Determination: Historic values are not considered to be outstandingly remarkable.

7. Other (Botany)

Description: Riparian vegetation consists of alder, sycamore, and various species of willow and oak. The 1977 Marble Cone Fire affected all of this vegetation, and 1,600 acres were burned during a 1985 incident. Not all of the riparian plants were burned during these fire events, and much of the vegetation is relatively mature in age with moderately well developed vertical and horizontal diversity.

The *Arroyo Seco Watershed Analysis* (2000) identified five sensitive plant species as being present in the Arroyo Seco watershed. None of these five have been found to occur within one-quarter mile of Arroyo Seco River, and none of these five are associated with riparian habitats.

No systematic efforts have been made to inventory the botanical resources of the Arroyo Seco River. Surveys for fuels management have been focused on areas immediately adjacent to Arroyo Seco Road and have not included the riparian corridor and its adjoining uplands.

Determination: Botanical values are not considered to be outstandingly remarkable.

Summary of Outstandingly Remarkable Values:

Scenery

The scenic features of Arroyo Seco River are considered to be outstandingly remarkable because of the combination of steep canyon walls, gorges, rock outcrops, and jumbles of boulders that create pools, and dramatic sounds within a dynamic scenic setting.

Recreation

The recreation opportunities are considered to be outstandingly remarkable. The environmental space is inspiring, and the scale and contrast offer a feeling of insignificance. This is especially true in many sections of the gorge area and the many deep pools upstream. Steep cliffs and deep pools for swimming are unusual in a predominantly chaparral landscape.

Geology

The Salinian Block metasedimentary and plutonic rocks exposed by the Arroyo Seco River are outstandingly remarkable. The Arroyo Seco River cuts through a complex geological cross-section in the Coast Ranges. The river exposes the relationship of rocks and geologic structural features in the Salinian Block that are important as research areas to aid in understanding important tectonic and seismic processes along the California continental margin. Abundant vegetation and steep terrain often obscures these rocks in other locations.

Fish

The habitat for federally threatened steelhead of is considered to be outstandingly remarkable. The Arroyo Seco River is the middle link of an anadromous fishery continuum between the Tassajara Creek, Salinas River and Pacific Ocean.

Table 436. Arroyo Seco River - Potential Classification by River Segment

	Segment 1	Segment 2	Segment 3	Segment 4
WILD RIVER				
Free of impoundments	Yes	No	Yes	Yes
Generally inaccessible except by trail	Yes	No	No	No
Watersheds or shorelines essentially primitive	Yes	No	Yes	No
Waters unpolluted	Yes	Yes	Yes	Yes

	Segment 1	Segment 2	Segment 3	Segment 4
SCENIC RIVER				
Free of impoundments		No	Yes	Yes
Accessible in places by roads		Yes	Yes	Yes
Watershed largely primitive and undeveloped		Yes	Yes	No
RECREATIONAL RIVER				
Some impoundments or diversions in past		Yes		No
Readily accessible by road or railroad		Yes		Yes
Some development along shoreline		Yes		Yes
Eligibility Status	Wild	Recreation	Scenic	Recreation

Potential Classification by River Segment (based on Interagency Guidelines criteria)

Segment 1 - Wild

Segment 2 - Recreation

Segment 3 - Scenic

Segment 4 - Recreation

See table 436: Arroyo Seco River - Potential Classification by River Segment for details.

Suitability Report

Description

Landownership and Land Uses

Segment 1: This segment includes the Arroyo Seco River from its headwaters to the Sportsman's Lodge for a total distance of 2.5 miles (781 acres). Segment 1 is totally within the Ventana Wilderness.

Segment 2: A length of river 0.25 miles upstream and downstream of the impoundment at the Sportsman's Lodge located in Township 21 S., Range 5 E., Section 7 (149 acres). Segment 2 lies within the administrative boundary of the Los Padres National Forest and is outside of the Ventana Wilderness. The Sportsman's Lodge is under special-use permit from the Los Padres National Forest.

Segment 3: Beginning 0.25 miles downstream of the impoundment at the Sportsman's Lodge to the Ventana Wilderness boundary approximately one-quarter mile above the confluence with Tassajara Creek for a total distance of 10.5 miles (2965 acres). There are several non-federal parcels in the last mile within the administrative boundary of the Los Padres National Forest.

Segment 4: Segment 4 begins at Ventana Wilderness boundary approximately one-quarter mile above the confluence with Tassajara Creek and extends to the administrative boundary of the Los Padres National Forest along the eastern boundary of Township 19 S., Range 5 E., Section 31.

The river mile location is from the source (see table).

Mineral and Energy Resource Activities

There is no history of locatable minerals. Potential for mineral, oil or gas development within the corridor is low. There is a sand and gravel operation downstream from the national forest boundary.

Water Resources Development

There are no known plans for hydroelectric or other water development.

Transportation, Facilities and Other Developments

The Arroyo Seco/Indians Road (19S09) is within the river corridor from the national forest boundary at Arroyo Seco Station to the Marble Peak trailhead (approximately three miles). From Marble Peak trailhead to Escondido Campground, the road is outside the river corridor but parallels the river. From Escondido Campground to the Sportsman's Lodge, the road is within the river corridor (approximately three miles). The road corridor is outside of the Ventana Wilderness.

The south end of the road from Memorial Campground to Escondido Campground is seasonally open (May-November). The remainder of road is temporarily closed to motorized vehicles pending an environmental assessment to address potential impacts of removing the existing slide material from the road above the Arroyo Seco Campground to Escondido Campground. There have been periodic landslides on this road.

From the Sportsman's Lodge, the river corridor is accessed by the Arroyo Seco Trail (4E10) and at this point enters the Ventana Wilderness. The trail is located within the river corridor to its boundary south of Madrone Camp. Other trails that access the river corridor are the Rocky Creek Trail (E04), Marble Peak (4E07), Santa Lucia Trail (5E03), and Lost Valley trail (4E08). Two trails cross the river, Marble Peak at Horse Bridge and Lost Valley trail approximately one mile west of Escondido Campground.

Approximately seven miles of trail exist within the river corridor. Two backcountry trail camps exist within the river corridor (Forks and Madrone).

Developed recreation facilities within the river corridor include:

Arroyo Seco Campground – 49 units, newly remodeled with showers, flush toilets.

Escondido Campground – 9 units, no potable water, vault toilets.

Memorial Campground – 8 units, no potable water, vault toilets.

These campgrounds are not visible from the river itself. The Arroyo Seco Day Use Area is visible from the river, near the boundary by Arroyo Seco Station.

Recreation Activities

Recreation use is concentrated from the Arroyo Seco Recreation Area to just upstream of Horse Bridge. Use in this area consists primarily of hiking, backpacking, picnicking, and swimming. From this point heading upstream to Escondido, use of the river is constrained by very limited access. Use is moderate from Escondido Campground to the headwaters. Use in this area consists primarily of hiking, backpacking and picnicking. The day use area and campground at the Arroyo Seco Recreation Area has a history of use by over 1,000 people per weekend. This area has recently been rehabilitated and has a capacity for 900 people.

Other Resource Activities

Prescribed burning is planned within the river corridor between Escondido and Memorial Campgrounds. Vegetation management, including brush cutting and pile burning, occurs in the vicinity of the Arroyo Seco Recreation Area.

Special Designations

Segment 1 is within the Ventana Wilderness. Segment 2 is on National Forest System lands with no special designation. Segment 3 is now within the Ventana Wilderness from one-quarter mile downstream from the Sportsman's Lodge impoundment (i.e., downstream from boundary of segment 2) to approximately 0.25 miles upstream from the confluence with Tassajara Creek. Segment 4 downstream of this point has no special designation.

Socio-Economic Environment

Located within 12 miles, Greenfield (population ~10,000) is the closest town. Fort Hunter Liggett is approximately 15 miles from the river corridor. The Salinas Valley is a heavily developed agricultural area. New housing developments are increasing along the river outside of the administrative boundary of the Los Padres National Forest. There is a high migrant population in the Salinas Valley. The population in the Salinas Valley is rapidly increasing with the associated urbanization from San Jose.

There is a small housing development on the Arroyo Seco Road just east of the administrative boundary of the Los Padres. There are about 50 houses with most being full time residences. About two miles east of the administrative boundary is a restaurant/bar and mobile home park known as Millers Lodge.

Designation of the Arroyo Seco River as a Wild and Scenic River would have a negligible effect on the local economy. Use patterns within the Ventana Wilderness area would be unchanged. Designation as a recreational or scenic river would not affect use patterns in the Arroyo Seco Recreation Area. A scenic designation could limit recreational developments downstream of the Ventana Wilderness.

Current Administration and Funding Needs if Designated

	Expenses Independent of Designation	Additional Expenses with Designation
General Administration *	\$27,300	\$23,700
Development of River Management Plan	\$0	\$100,000
Development Costs	\$0	\$5,000
Operation and Maintenance Costs	\$136,500	\$13,500
Total Cost First Five Years	\$163,800	\$265,900

* General administration and operation and maintenance costs are estimated to continue at \$30,000 annually.

Suitability Factor Assessment:

1. Characteristics that do or do not make the area a worthy addition to the National System.

Worthy: The habitat for federally threatened steelhead is considered to be outstandingly remarkable. The Arroyo Seco River is the middle link of an anadromous fishery continuum between the Tassajara Creek, Salinas River and Pacific Ocean. Designation would support efforts to maintain and improve habitat.

The scenic features of Arroyo Seco River are considered to be outstandingly remarkable because of the combination of steep canyon walls, gorges, rock outcrops, and jumbles of boulders that create pools, dramatic sounds within a dynamic scenic setting. Designation would help preserve the scenic values.

The recreation opportunities are considered to be outstandingly remarkable. The environmental space is inspiring, and the scale and contrast offer a feeling of insignificance. This is especially true in many sections of the gorge area and the many deep pools upstream. Steep cliffs and deep pools for swimming are unusual in a predominantly chaparral landscape. Designation as a recreational river would allow for development of high standard recreation facilities, where appropriate, within the river corridor. This is important in segment 4 where developed facilities already exist.

Not worthy: The Salinian Block metasedimentary and plutonic rocks exposed by the Arroyo Seco River are outstandingly remarkable. The Arroyo Seco River cuts through a complex geological cross-section in the Coast Ranges. However, these features are already protected by wilderness designation.

2. The current status of land ownership and use in the area.

The facilities at the Sportsman’s Lodge include an access road, main cabin, covered pavilion, and utility infrastructure. The parcel in the north one half of T20S, R4E, 1/2 of Sec 1 contains no improvements

within the study corridor. The non-federal lands within T19S, R4E, Sec 31 and the northeast corner of T20S, R4E Sec 6 contain numerous small residential parcels within the study corridor.

If designated, the values of the river corridor would be protected through the administration of the Sportsman's Lodge permit. No improvements are anticipated on the parcel in Section 1. The residential development near the terminus of the study corridor is well established and plans for future developments are unknown.

The Nature Conservancy is actively acquiring property downstream of the administrative boundary of the national forest.

3. The reasonable foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the National System.

Potential dams and other water developments would be curtailed but there are no current proposals for this kind of development. All of segment 1 and most of segment 3 are within the Ventana Wilderness. This precluded any uses that do not meet wilderness use criteria. This includes dams, developed recreation facilities, and anything that detracts from wilderness character.

The continued use of the Arroyo Seco-Indians road may be curtailed by designation. The two ends of this road would be within the river corridor and designation as a wild river prohibits roads within the river corridor. This road is part of the national forest transportation system and is a connector between the Arroyo Seco road and Fort Hunter-Liggett. The road is also critical for access to the Ventana Wilderness for wildland firefighting. It has been used for access to the Ventana Wilderness on every major wildland fire in the east side of the wilderness. Designation could also influence future development of recreational facilities at the Arroyo Seco Recreation Area.

Monterey County has a special-use permit to pump water from the Arroyo Seco River into Lower Abbott Lake. This lake is an impoundment adjacent to the Arroyo Seco Recreation Area. It has been a popular fishing spot for people using the recreation area. Water has not been pumped for several years, but the Monterey County Fish and Game Commission has expressed interest in restarting the pumps. The pumps are located within the proposed corridor (segment 4), so designation could affect this pumping operation.

4. The federal agency that will administer the area, should it be added to the National System.

USDA Forest Service.

5. The extent to which the agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.

No proposal to share costs exists. Arroyo Seco-Indians road is maintained by Monterey County Public Works.

6. The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the National System.

This area is not prioritized for land acquisition since there is only one small private parcel within the corridor. The cost to purchase this parcel is unknown.

7. A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river, should it be proposed for inclusion in the National System.

Participation not expected.

8. State and/or Local government's ability to manage and protect the outstandingly remarkable values on non-federal lands.

There is continuing development outside the national forest boundary including a residential subdivision and grape vineyards. This development is a concern for non-governmental land/resource protection agencies as well as state resource management agencies. The Monterey County General Plan zones the areas downstream from the national forest boundary as "rural" and "resource" lands. Resource lands are to be used for agricultural purposes, mining and resource conservation. Rural lands are primarily used for grazing and very low-density residences.

9. The consistency of designation with other agency plans, programs or policies.

Designation of these segments would be consistent with the Los Padres National Forest Land and Resource Management Plan. It would also be consistent with the county General Plan.

10. Support or opposition to designation.

There is both strong support and strong opposition to additional river protection designations. Environmental groups support the designation of the segments listed in this study. There is opposition to designation from local ranchers/farmers as they see this as a precursor for designation of downstream segments.

A citizens group has been formed to advocate for designation of the portion of the river downstream from the national forest as a Wild and Scenic River. Local farmers/ranchers along the river are opposed to designation because of potential for restrictions on uses of private land.

11. Potential for water resources development.

There are no known plans for water development in these segments. Water developments are no longer allowed in segments 1 and 3 due to designation as wilderness.

Forest Plan Alternatives

Briefly describe how a particular river was treated in each of the forest plan alternatives:

Alternative 1: No segments recommended for designation.

Alternative 2: Segment 1 is recommended for wild river designation, consistent with the existing wilderness. Segment 3 is recommended for scenic river designation to allow for limited maintenance on the Arroyo Seco Indians Road and trailheads. No designation recommended for all of segments 2 and 4. No designation through segment 2 would allow for future use and development of the Sportsmen's Lodge permit area. Segment 4 contains several private parcels and is a highly used, developed recreation area. No designation would minimize conflicts with private landowners. The recommended designations provide the best balance of recreation and scenery values with the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable values.

Alternative 3: One of the ORVs on the Arroyo Seco River is fisheries. Segment 1 is recommended for wild river designation, consistent with the existing wilderness. Segments 2 and 4 are recommended for recreational river designation. This designation would provide additional protection for the free-flowing character and ORVs while still allowing for recreational development. Segment 3 is recommended for scenic river designation to allow for limited maintenance on the Arroyo Seco Indians Road and trailheads. The recommended designations balance the need to protect and enhance the free-flowing character, water quality, and outstandingly remarkable fish habitat and habitat linkages.

Alternative 4: The ORVs on the Arroyo Seco River include recreation and scenery. Segment 1 is recommended for wild river designation, consistent with the existing wilderness. Segments 2 and 4 are recommended for recreational river designation. This designation would provide additional protection for the free-flowing character and ORVs while still allowing for recreational development. Segment 3 is

recommended for scenic river designation to allow for limited maintenance on the Arroyo Seco-Indians Road and trailheads.

Alternative 4a: Same as Alternative 4.

Alternative 5: No segments are recommended for designation.

Alternative 6: Segment 1 is recommended for wild river designation, consistent with the existing wilderness. Segments 2 and 4 are recommended for recreational river designation. This designation would provide additional protection for the free-flowing character and ORVs while still allowing for recreational development. Segment 3 is recommended for scenic river designation to allow for limited maintenance on the Arroyo Seco Indians Road and trailheads. The recommended designations protects and enhances outstandingly remarkable scenery, recreation, geology, and fishery values and features, including species conservation, biodiversity, open space, natural beauty, recreation and research.

Suitability Determination for the Selected Alternative

Describe the rationale for the suitability determination of the selected Alternative 4a:

Segment 1 is recommended for wild river designation. Segments 2 and 4 are recommended for recreational river designation. Segment 3 is recommended for scenic river designation. Recommending segment 1 for wild river designation would be compatible with existing wilderness management. Segment 2 contains the Monterey County Sportsman's Lodge. This organization camp has been under special-use permit since the 1920s and is very popular with local sportsmen. Designation would allow for the perpetuation of this use and would provide a continuous wild and scenic river corridor. Designation of segment 3 as a scenic river within the wilderness would protect outstandingly remarkable values and allow for the continued use and maintenance of the Arroyo Seco-Indians Road. A scenic river designation would allow for continued public access, fire prevention, fire suppression, watershed improvement projects and provide a full range of recreation opportunities. The portion of the Arroyo Seco River corridor downstream from Horse Bridge is the most popular recreation area on the Monterey Ranger District. The high degree of private development in Sections 31 and 6 (within the corridor and immediately adjacent to the river) would frustrate Wild and Scenic River management at a high classification; therefore, in order to provide protection for the free-flowing character and ORVs while still allowing for development, recreational designation is recommended.

Indian Creek

Study Area Summary

In November of 1993, the Los Padres National Forest published Amendment No. 2 to the Forest Land and Resource Management Plan identifying Indian Creek for eligibility and suitability evaluation as a potential addition to the National Wild and Scenic River System.

Name of River: Indian Creek

Location: State of California, Santa Barbara County, Los Padres National Forest

For the purposes of this study, Indian Creek was divided into two segments.

Segment 1: Indian Creek is considered to be free flowing below a point in the Dick Smith Wilderness near Bluff Camp (T7N, R26W, Sec 19, SBBM) and then flows in a southerly direction. Segment 1 continues downstream from the source to where Indian Creek leaves the Dick Smith Wilderness in T6N, R26W, Sec 19, SBBM.

Segment 2: Segment 2 goes from the Dick Smith Wilderness boundary to the upstream extent of the Mono Debris Basin in the northeast corner of T5N, R26W, Sec 6, SBBM.

River Mileage:

River Segment	Miles Studied	Miles Eligible
1	9.6	9.6
2	5.1	5.1

Studied: 14.7 miles

Eligible: 14.7 miles

Eligibility Inventory

Free-flow Determination:

A weir (approximately six feet in height) exists within one-quarter mile of the lower boundary of the study segment. The weir was built in the 1940s and the area behind the weir is completely silted in. Indian Creek above Mono Debris Basin is considered to be free flowing.

Determination of Outstandingly Remarkable Values (ORVs):

1. Scenery

Description: The majority of the Indian Creek corridor is scenic attractiveness class "A" landscape. Scenic attractiveness class "A" landscapes are distinctive within the Southwest Mountain and Valley Character type. Indian Creek is distinctive not only because of the presence of water, but also because of the mix of landform, color, and vegetation.

From the Bluff Camp to Poplar Camp, there are steep canyon walls creating a strong sense of enclosure after the first one-quarter mile. Of note is the occasional spruce tree along the corridor. There is also a mix of sage and chaparral cover with distinctive groves of alders. There is the yearlong presence of water and many small pools. The slopes offer a contrast of black and gray shale and vegetated canyon walls. By the time you reach Poplar Camp, you feel that you have really entered down into the creek canyons.

From Poplar Camp to Pens Camp, the landscape opens up with the strong evidence of oak grassland with the mix of some sycamores. In the stretch from Pens camp to Indian Narrows, the landform gets real narrow with high vertical walls and distinctive caves. The dramatic sheer bare walls and dark sandstone color provides for a vivid contrast as the canyon sweeps into the Narrows. Bigcone Douglas-fir can be seen from the creek.

The Narrows are very distinctive with large limestone formations, smooth polished surfaces, and steep crossings. Pools, rushing water sounds, the narrow channel, and white, luminous, polished rock make the area unique. There are views of the canyon below, including deep pools and many waterfalls.

The distance from Indian Canyon Camp to the terminus just beyond Mono camp is similar but not nearly as dramatic. The landscape is wider and there is more of a riparian zone with grass and oak grassland. The water is intermittent in this section and the vegetation is more typical of the character type as it empties into a pool at the end.

Determination: Scenic values are not considered to be outstandingly remarkable. Although the scenic values are distinctive landscapes, there are better examples of these scenic features along the designated Wild and Scenic Sisquoc River.

2. Recreation:

Description: From Bluff Camp to Poplar Camp, Indian Creek is perennial and available for public recreation use in a setting with remarkable rock formations, cultural sites, and biodiversity. Indian Creek is popular for hiking. It is unique within California for the mix of cultural and biologically diverse qualities. From Pens Camp, the walls of the sandstone canyon become deeper and narrower. The trail

has been abandoned, but hiking access is possible along the creek bottom until the visitor reconnects with Forest Trail 26W08 that begins again at Indian Creek Camp. In the dramatic "Narrows" area, water passes over a luminescent, polished, white sandstone formation creating deep pools and falls, including one spectacular pool area with a waterfall in a setting of large boulders.

The stretch of Indian Creek from Indian Creek Camp begins to show more signs of visitor use. The trail follows along the creek, with some large pools with cattails, finally to reach the intersection with Camuesa Off Highway Vehicle Route (National Forest System Road (NFSR) 5N15) and the Buckhorn/Indian Creek Trailhead.

Indian Creek and the adjacent trail provide opportunities for extended dispersed camping, backpacking, and hiking in a wilderness setting. From the headwaters near Bluff Camp to Lower Buckhorn Camp, the Indian Creek drainage is within the Dick Smith Wilderness. The lower segment of this creek and the Buckhorn Trail is a multi-use trail used by hikers, mountain bicyclists, and equestrians. Fishing for native rainbow trout is a main attraction. Use is estimated to be 500 visitor days per year with approximately 95 percent of the use coming from Santa Barbara and Ventura Counties. A portion of the remaining 5 percent includes out of state and international visitors.

Determination: Recreation values are locally significant but not considered to be outstandingly remarkable.

3. Geology

Description: Indian Creek is located in the Coast Ranges of central California. This is a geologically young mountain range that was uplifted to its present height about 400,000 years ago. The range includes Mesozoic age rocks that represent a subduction zone complex (the Franciscan Complex), a magmatic arc (plutonic and metamorphic rocks of the Salinian Block), and forearc basin sediments (the Great Valley Sequence). It also includes younger Tertiary marine sediments and Quaternary largely non-marine sediments.

The headwaters of Indian Creek are in the Cachuma Formation. The creek crosses the Big Pine Fault that deflects the stream as it passes into the Juncal Formation (shale unit). It then crosses a syncline cored by the Monterey Formation. The course of Indian Creek cuts across six mapped northwest trending faults and is nearly perpendicular to numerous fold axes.

Near Narrows Campground in the Big Pine Mountain quad, a band of resistant Sierra Blanca Limestone overlying the Mono Shale member of the Cachuma Formation forms the narrows. Sandstone units from the Juncal and Cachuma Formation and the Sierra Blanca Limestone form the resistant bluffs along the creek.

Determination: The Big Pine Fault is one of California's major left-slip faults. The fault and its related structures provide critical information for a better understanding of the development of the west coast of North America. Much study is occurring to determine the structural activity that defines the relationship of these mountains to the tectonic development of southern and central California, from San Diego to the Central Valley. This is significant at a regional level and is considered to be outstandingly remarkable.

4. Fish and Wildlife

Description: The lower segment of Indian Creek provides habitat typical of southern California third order streams. However, due to its rather pristine nature and its juxtaposition with the Santa Ynez River, it provides for a very unique assemblage of threatened, endangered and sensitive species. These species include arroyo toad, California red-legged frog, southern Pacific pond turtle, and two-striped garter snake. This stream is currently devoid of any exotic aquatic species such as bullfrog, green sunfish, bullhead, bass and flathead minnow, all of which inhabit many of the other similar stream systems on the national forest. Habitat exists to support the least Bell's vireo, willow flycatcher, California condor (one historic nest site in the upper reaches of the drainage), and California spotted owl.

This ecosystem is approximately 15 miles long, providing habitat for wider ranging animals such as mountain lion and black bear, as well as an area for adequate genetic interchange between species that require this ecosystem to breed in.

Indian Creek is home for one of the largest populations of the federally designated endangered arroyo toad (*Bufo californicus*) on the Los Padres National Forest and includes five miles of federally designated critical habitat for this species.

Portions of Indian Creek also contain federally designated critical habitat for the federally and state listed endangered least Bell's vireo (*Vireo bellii pusillus*). No recent sightings have been reported on Indian Creek but they have been reported in the adjacent Mono Creek.

Habitat exists within Indian Creek for willow flycatcher (*Empidonax traillii*), a Region 5 sensitive species.

California red-legged frog (*Rana aurora draytonii*), a federally listed threatened species, is found in suitable habitat within the Indian Creek drainage. The creek supports five miles of federally designated critical habitat for this species.

Southern Pacific pond turtle (*Actinemys marmorata pallida*), a Region 5 sensitive species, is found in suitable habitat throughout the drainage.

Two-striped garter snake (*Thamnophis hammondi*), a Region 5 sensitive species, is also found scattered throughout the creek corridor.

The upper headwaters of Indian Creek also provide habitat for the California spotted owl (*Strix occidentalis occidentalis*), a Region 5 sensitive species, and an historic nest site of the federally endangered California condor (*Gymnogyps californianus*). Upper reaches of Indian Creek are within federally designated critical habitat for the California condor.

Determination: The resident population of arroyo toads in Indian Creek is one of the largest within one hundred miles, and since the geographical range of this meta-population contains gaps, this is outstandingly remarkable. Although the other species mentioned above are outstanding according to their definition as threatened, endangered, or sensitive, the habitat and wildlife resources within Indian Creek drainage are not outstandingly remarkable amongst other drainages with similar habitat and species components (see criterion for habitat and population).

5. Heritage resources (Cultural)

Description: Only a portion of the Indian Creek corridor has been inventoried for heritage resources. Nevertheless, there are over twenty-five sites known for this study area. The Native American sites known for the area represent occupation areas with a variety of cultural materials, food processing and tool manufacture. Until a representative evaluation of the known sites occurs, it is difficult to fully assess the full importance of these sites. A rock art site exists that is very distinctive and has been published in a nationally recognized book on rock art. This site, given the level of interest in Chumash rock art, has national or international significance and was used by the Chumash for sacred purposes.

Determination: Cultural values, primarily the rock art site, are considered to be outstandingly remarkable.

6. Heritage resources (Historic)

Description: Only a portion of the Indian Creek corridor has been surveyed for heritage resources. The knowledge of the span and complexity of historic use of the corridor is limited but several sites are known to be located within the corridor. The known resources are reflective of more recent history and activities associated with mining (limestone) and the Forest Service administration of the area (Bluff Camp Guard Station). The sites and features recorded within the corridor are common in the local area and region, and

may possess local significance but they are not rare, unique or noteworthy enough to have significance beyond the local level.

Determination: Historic values are not considered to be outstandingly remarkable.

7. Other (Botany)

Description: The botanical resources of the Indian Creek are not well known. No systematic effort has been made to inventory the botanical resources found in the study corridor.

Based on a review of existing literature, there are no known occurrences of endangered, threatened, proposed, candidate, or sensitive plant species within one-quarter mile of Indian Creek. There are a number of occurrences of sensitive plant species on the ridge tops of the San Rafael Mountains but these populations all occur more than one mile from the creek.

Determination: Botanical values are not considered to be outstandingly remarkable.

Summary of Outstandingly Remarkable Values:

Geology

The Big Pine faults and the sedimentary rock formations found within Indian Creek include important features crucial to the understanding of the very complex structural and geomorphic evolution of the west coast of North America. Indian Creek cuts through these formations and structures exposing beautiful outcrops and making them accessible for study.

Wildlife

The resident population of arroyo toads in Indian Creek is one of the largest within one hundred miles, and since the geographical range of this meta-population contains gaps, this is outstandingly remarkable.

Cultural

The Chumash rock art site is considered to be outstandingly remarkable.

Potential Classification

Table 438. Indian Creek - Potential Classification by River Segment

	Segment 1	Segment 2
WILD RIVER		
Free of impoundments	Yes	Yes
Generally inaccessible except by trail	Yes	Yes
Watersheds or shorelines essentially primitive	Yes	Yes
Waters unpolluted	Yes	Yes
SCENIC RIVER		
Free of impoundments		
Accessible in places by roads		
Watershed largely primitive and undeveloped		
RECREATIONAL RIVER		
Some impoundments or diversions in past		
Readily accessible by road or railroad		
Some development along shoreline		
Eligibility Status	Wild	Wild

Suitability Report

Description

Landownership and Land Uses

With the exception of part of the quarter mile buffer at the lower end, the Indian Creek corridor is within National Forest System lands. The upper extent of the Mono Debris Basin (owned by the City of Santa Barbara) is immediately below segment 2.

The river mile location is from the source (see table 445: Indian Creek - Segment Description).

Table 455. OHV Mileage by Forest

	ANF	CNF	LPNF	SBNF	Total
Roads	306	40	289	160	795
Trails	55	31	151	38	275
Total	361	71	440	198	1,070

Mineral and Energy Resource Activities

There is no known potential for mineral and energy development.

Water Resources Development

A weir (approximately six feet in height) exists within one-quarter mile of the lower boundary of the study segment. The weir was built in the 1940s and the area behind the weir is completely silted in.

Transportation, Facilities and Other Developments

Forest Trail 26W08 (Indian Creek Trail) parallels Indian Creek corridor from Bluff Camp to Pens Camp. The trail has been abandoned south of Pens Camp, but hiking is possible along the bottom of the creek until reconnecting with Forest Trail 26W08 at Indian Creek Camp and continuing south to NFSR 5N15, the Camuesa Off Highway Vehicle Route.

Recreation Activities

Trail 26W08 begins at Bluff Camp and follows Indian Creek to the junction with NFSR 5N15 (an OHV route). Opportunities for extended dispersed camping, backpacking and hiking are available in a wilderness setting on segment 1. Segment 2 is used by a varied group of recreationists including hikers, mountain bicyclists and equestrians. Fishing for native rainbow trout and viewing the dramatic rock formations and waterfalls are the main attractions.

Other Resource Activities

Ridge top fuelbreaks are maintained through vegetation removal and prescribed fire. Trail maintenance is performed on the National Forest System trails described above to minimize resource damage. The populations and habitats of arroyo toads, red-legged frogs, least Bell's vireo, and southwest willow flycatcher are intensively monitored within the Indian Creek drainage. Vandalism of important cultural sites does occur; these sites are monitored for any damage.

Special Designations

All of segment 1 is in the congressionally designated Dick Smith Wilderness.

Socio-Economic Environment

The Santa Barbara front is the closest urban area and is within eight miles of Indian Creek. The Santa Ynez Valley contains the communities of Buellton, Santa Ynez, Solvang, and Los Olivos. Vehicular access to Indian Creek is limited by seasonal closures and long drive times over low standard roads. Use

in the Indian Creek corridor is limited to non-motorized activities. Designation as a Wild and Scenic River would not change the existing use patterns. Existing use would not threaten the outstandingly remarkable values.

Current Administration and Funding Needs if Designated

	Expenses Independent of Designation	Additional Expenses with Designation
General Administration *	\$4,000	\$33,000
Development of River Management Plan	\$ 0	\$150,000
Development Costs	\$0	\$10,000
Operation and Maintenance Costs	\$20,000	\$5,000
Total Cost First Five Years	\$24,400	\$198,000

*General administration and operation and maintenance costs of designated river are estimated to continue at \$5,000 annually.

Suitability Factor Assessment:

1. Characteristics that do or do not make the area a worthy addition to the National System.

Worthy: The resident population of arroyo toads (a federally endangered species) is one of the largest within one hundred miles. Since the geographical range of this meta-population contains gaps, this is outstandingly remarkable. There are also historic condor roosts and nesting in nearby canyons. Designation as a Wild and Scenic River would support efforts to maintain and improve habitat.

Not worthy: The Chumash rock art site is considered to be outstandingly remarkable. Designation as a Wild and Scenic River would add little protection to these resources and may increase vandalism.

2. The current status of land ownership and use in the area.

All of the corridor is in federal ownership and provides wildland recreation opportunities.

3. The reasonable foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the National System.

Indian Creek is within a section of Los Padres National Forest referred to as Mono Basin, which also includes a section of the middle Santa Ynez River, and all of Aqua Caliente and Mono Creeks. Past surveys have shown that the varied habitats in Mono Basin support a rich diversity of species, including several federally threatened and endangered species. For this reason, the area is being considered for a special interest area designation in the revised Los Padres Land and Resource Management Plan, where wildlife research, viewing and interpretation will be emphasized. Designation of Indian Creek as a Wild and Scenic River will not curtail these activities.

4. The federal agency that will administer the area, should it be added to the National System.

USDA Forest Service.

5. The extent to which the agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.

No proposals to share costs with State and local agencies exist.

6. The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the National System.

No lands to be acquired.

7. A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river, should it be proposed for inclusion in the National System.

Not significant to the State or other entities.

8. The consistency of designation with other agency plans, programs or policies.

A consideration in this revision is the creation of the Mono Basin Special Interest Area to highlight the unique assemblage of threatened, endangered, and sensitive species and their habitat. The designation of Indian Creek as a Wild and Scenic River would be consistent with the creation of a special interest area.

Forest Plan Alternatives

Briefly describe how a particular river was treated in each of the forest plan alternatives:

Alternative 1: No segments are recommended for designation.

Alternative 2: Segment 1 is recommended for wild river designation, consistent with the existing wilderness. Segment 2 is recommended for scenic river designation. A scenic designation will allow for continued road access and for heritage interpretation. The recommended designations provide the best balance of recreation and scenery values with the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable values.

Alternative 3: Segments 1 and 2 are recommended for wild river designation. Reduce trail access to the corridor. Indian Creek has wildlife an ORV. This recommendation balances the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable wildlife values with the conservation of a wide range of wildlife and plant species (especially threatened, endangered, and sensitive species) and habitats, biodiversity, linkages, and corridors

Alternative 4: No segments are recommended. The ORVs do not include recreation or scenery.

Alternative 4a: No segments are recommended.

Alternative 5: No segments are recommended.

Alternative 6: Segments 1 and 2 are recommended for wild river designation. No additional development. The recommended designation protects and enhances a wide range of values and features, including species conservation, biodiversity, open space, natural beauty, recreation and research.

Suitability Determination for the Selected Alternative

Describe the rationale for the suitability determination of the selected Alternative 4a:

Recommend against designation. Segment 1 is already in congressionally designated wilderness and segment 2 is in a wildland setting that is recommended for the Mono Wildlife Special Interest Area.

Little Sur River

Study Area Summary

The California Protected Waterways Plan (Initial Elements), prepared in 1971 pursuant to the Protected Waterways Act of 1969, recognized the Little Sur River as a Class III (Important) Steelhead Trout Stream and as possessing a Class III (Important) Lagoon (Wildlife Waterway) serving waterfowl, shorebirds, and other water-associated birds. The Class III designation indicates waterways that are usually of countywide interest and importance.

In response to this finding, Monterey County prepared the "Little Sur Protected Waterway Management Plan" in 1983. The North and South Forks of the Little Sur River were classified under guidelines in the California Protected Waterways Plan (Initial Elements) as "natural waterway" and appear to satisfy the

state criteria (California Wild and Scenic River Act, 1972) for classification as a "wild" or "scenic" river. The main stem below the confluence of the North and South Forks was classified as "pastoral" and appear not to meet the state criteria as a wild or scenic river. The primary goal of the Little Sur Protected Waterway Management Plan is "To protect and enhance the outstanding natural values of the Little Sur River and its watershed as prime fish and wildlife habitat and for scenic and passive outdoor recreation and to support continued ranching use and those visitor-serving uses and limited resource-dependent uses which are compatible with protection of these natural values." The plan did not recommend the Little Sur River for State or National Wild and Scenic River status.

The "Los Padres Condor Range and River Protection Act" (PL 102-301) directed that the Little Sur River be studied for potential addition to the National Wild and Scenic River System. On March 4, 2002, a letter was sent to Monterey County to seek their interest in participating in a study of the Little Sur River. No response was received. The eligibility determination below combines the findings of the Little Sur Protected Waterway Management Plan with other available information about the Little Sur River downstream of the administrative boundary of the Los Padres National Forest.

Name of River: Little Sur River

Location: State of California, Monterey County, Los Padres National Forest

The Little Sur River study area includes both the main stem and the South Fork. The main stem is considered to be free flowing below a point in the Ventana Wilderness northwest of the Ventana Double Cone in the southeastern quarter of T18S, R2E, Sec 34, MDBM. The South Fork is considered to be free flowing below a point within the Ventana Wilderness west of the Ventana Double Cone in the northeast quarter of T19S, R2E, Sec 9, MDBM. The main stem and South Fork flow in a westerly direction to join at the western tip of Dani Ridge in the northwest quarter of T18S, R1E, Sec 34, MDBM. The main stem of the Little Sur River then continues to flow westerly to the Pacific Ocean. For the purposes of this study, the Little Sur River was divided into five segments.

Segment 1: This segment includes the main stem (North Fork) of the Little Sur River from the headwaters to the boundary of the Ventana Wilderness in the northwest corner of T18S, R2E, Sec 31.

Segment 2: This segment originates at the Ventana Wilderness boundary near Jackson Camp and continues to the administrative boundary of the Los Padres National Forest along the western boundary of T18S, R1E, Sec 25, MDBM. Total length is approximately 3.3 miles and only about 1.2 mile of this segment flows within National Forest System lands. This segment also encompasses a 0.5-mile length of the Pico Blanco Boy Scout Camp. In addition to several buildings, the developments include a cement impoundment on the river to create a recreational pond.

Segment 3: This segment originates at the administrative boundary of the Los Padres National Forest along the western boundary of T18S, R1E, Sec 25, MDBM, and ends at the confluence with the South Fork of the Little Sur River. All lands within this study segment are privately owned and outside of the forest boundary.

Segment 4: The South Fork of the Little Sur River from the headwaters to the confluence with the main stem. The total length is approximately 10.4 miles. Roughly 6.5 miles are within the administrative boundary of the Los Padres National Forest and 4 miles are entirely within the Ventana Wilderness and 2 miles border the recent addition. Approximately 1.5 miles are within Andrew Molera State Park.

Segment 5: The main stem of the Little Sur River from the confluence with the South Fork to the Pacific Ocean. All lands within this study segment are privately owned and outside the forest boundary.

River Mileage:

River Segment	Miles Studied	Miles Eligible
1	4.9	4.9
2	3.3	3.3
3	4.2	0.0
4	10.4	0.0
5	2.0	0.0

Studied: 24.8 miles

Eligible: 8.2 miles

Eligibility Inventory

Free-flow Determination:

The main stem of the Little Sur River has an impoundment associated with the Pico Blanco Boy Scout Camp (T18S, R2E, Sec 30). The impoundment is used to create a recreational pond. No other current impoundments are known to exist. Past impoundments associated with logging and ranching may have existed but are not evident today. The Little Sur River is considered to be free flowing.

Determination of Outstandingly Remarkable Values (ORVs):

1. Scenery

Description: The headwaters of the Little Sur have no evidence of water but offer dramatic views to the ocean on the west and the entire Ventana Wilderness. The vegetation is chaparral, scrub oak and pine along very steep slopes. As the land flattens, water becomes evident and a hardwood canopy creates more enclosure. The river zigzags within this canopy.

At Fox Camp smells change, moss on the rocks, redwoods and ferns mix with alders and sycamores to offer a rich diversity of vegetation. The river is 20 to 25 feet wide with a few scattered boulders, although the vegetation is the main feature.

The vegetation shifts to a mix of oaks and massive redwoods, waterfalls, and landforms of granite and white marble adding color to the landscape. Views of the ocean become more evident.

The land becomes even steeper, with lots of waterfalls among a mix of hardwoods and redwoods as the river flows into Pico Blanco Camp. The feature here is a large waterfall with a 150-foot drop, deep pools and prolific ferns. The vegetation changes to all redwoods as the river widens to 40 feet. The land gets real steep at Little Sur Camp and then opens to a wide valley. Now the river slows with a lush jungle like undergrowth.

As the river enters private land, alders and willows prevail. The valley is broader as the river winds through grassy cattle land. There is a lot more evidence of humans with fences and buildings dominating the landscape.

Determination: Scenic values are not considered to be outstandingly remarkable. Although the scenic values are distinctive landscapes, there are better examples of these scenic features along the designated Wild and Scenic Big Sur River.

2. Recreation

Description: The Little Sur River is on the west slope of the Santa Lucia Mountains. The Little Sur River comprises two branches, the main stem and the South Fork, both of which flow westward to join about two miles from the ocean.

The main stem arises on the northwest slopes of Ventana Double Cone and picks up Puerto Suello, Comings and Skinner Creeks on its north side and Jackson Creek on the south side. The South Fork drains only the south central portion of the watershed.

Relief is pronounced, the upper main stem above Pico Blanco Boy Scout Camp ranging chiefly from 1,000 to 4,800 ft. elevation. The South Fork originates around 4,500 ft. near the west slopes of Ventana Double Cone and drops precipitously to the forks at around 100 ft. elevation. From thence, the river flows on its floodplain west to the ocean, forming a lagoon at its mouth.

The current uses of the Little Sur River corridor include hiking, backpacking, rock climbing, boys' camps, sunbathing, nature study, bird watching, fishing and hunting. An estimated 70 percent of the visitors are from Monterey County and an additional 20 percent are from surrounding counties within a 150-mile radius.

Determination: Recreation values are not considered to be outstandingly remarkable.

3. *Geology*

Description: The Monterey District of the Los Padres National Forest is in the southern Coast Ranges of California. This is a geologically young mountain range that was uplifted to its present height about 400,000 years ago. The range includes Mesozoic age rocks that represent a subduction zone complex (the Franciscan Complex), a magmatic arc (plutonic and metamorphic rocks of the Salinian Block) and forearc basin sediments (the Great Valley Sequence). It also includes younger Tertiary marine sediments and Quaternary largely non-marine sediments. The majority of the Monterey District is part of the Salinian Block. The Arroyo Seco, Carmel, Little Sur and San Antonio Rivers, and Tassajara Creek primarily flow through the basement rocks of this block.

The Little Sur River flows first through northwest trending bands of steeply dipping metasedimentary rocks (schist) and some granitic intrusive rocks. Some of these bands are separated by faults. Several landslides are adjacent to the river where it passes through the metasedimentary rocks. In the vicinity of the Pico Blanco Boy Scout Camp, the Palo Colorado Fault controls the river. This fault is likely responsible for the well known feature called Botcher's Gap, that from the topography map should be visible from the river. At Old Coast Road the river crosses the Sierra Hill Fault and Sur Thrust. Between these two faults are Cretaceous unnamed marine sedimentary rocks. West of the Sur Thrust, the river flows through the Franciscan Complex and overlying folded Tertiary marine sediments. Near the mouth of the river there is a band of serpentine, a rock type that is derived from a deep source and has distinct tectonic implications with regard to the evolution of California's coast.

The Salinian Block is unique because it appears to have been displaced 200 kilometers northwestward along the San Andreas Fault from its original position between the Sierra Nevada and the Peninsular Ranges. Rocks in the Salinian Block have been structurally deformed by en echelon faults and folds as a result of transform (strikeslip) faulting. The Salinian Block also has anomalous seismic properties that show in a marked decrease in seismic amplitudes. One possible explanation is that the Franciscan Complex underlies the block. The Salinian Block is significant at the central and southern California geographic level.

The Sur Thrust marks the boundary between the Salinian Block and the Franciscan Complex and is thus a major structural feature. The Sur Thrust is significant at the central and southern California geographic level.

The band of serpentine near the mouth of the river is significant at a regional level with regard to the tectonic evolution of the Coast Ranges.

Determination: The Salinian Block metasedimentary and plutonic rocks and the Sur Thrust exposed by the Little Sur River are not considered to be outstandingly remarkable in comparison with similar features located along the designated Wild and Scenic Big Sur River and elsewhere in this geologic province.

4. Fish and Wildlife

Description: The Little Sur River watershed drains west to the Pacific from a large, bowl shaped watershed on the coast range. Riparian vegetation along this river consists of alder and willows species growing intermittently among redwoods and riparian hardwoods. The river mouth supports one of the more extensive willow thickets in Big Sur. The north-facing slopes and riparian areas of the Little Sur support a magnificent redwood forest.

A pair of spotted owls (*Strix occidentalis occidentalis*), which is a Forest Service sensitive species, were found in 1990 off National Forest System lands near the Pico Blanco Boy Scout camp.

The Little Sur River is considered an anadromous stream and supports the California South-Central Steelhead evolutionary significant unit, (*Oncorhynchus mykiss*), a federally threatened species. Approximately six miles of steelhead waters within the Little Sur drainage exist on the Los Padres National Forest. This habitat is within the Ventana Wilderness and is nearly pristine.

Determination: Although the above mentioned species are outstanding according to their definition as threatened, endangered, or sensitive, the habitat and wildlife resources within Little Sur River drainage are not considered to be outstandingly remarkable amongst other drainages with similar habitat and species components.

5. Heritage resources (Cultural)

Description: With much of the corridor passing through private property, only a portion of the Little Sur River corridor has been surveyed for heritage resources. As such, the knowledge of the span and complexity of Native American use of the corridor is limited but several sites are known to be located within the corridor. The Native American sites recorded represent occupation sites and activity areas that have the potential to contribute information regarding such topics as manufacturing techniques, diet, and everyday life of the Native American inhabitants of the corridor. The sites and features recorded within the corridor are common in the local area and region, and as such, they are not rare or unique or have national or regional importance for interpreting prehistory.

Determination: Cultural values are not considered to be outstandingly remarkable.

6. Heritage resources (Historic)

Description: Only a portion of the Little Sur River drainage has been surveyed for heritage resources. As such, the knowledge of the span and complexity of historic use of the corridor is limited but several sites are known for the area. These known resources are associated with homesteading and ranching activities as well as possible recreation use. The sites identified are not rare, unique or noteworthy enough to have significance beyond the local level.

Determination: Historic values are not considered to be outstandingly remarkable.

7. Other (Botany)

Description: Riparian vegetation consists of alder and various species of willow as well as small to large groves of coastal redwood.

Dudley's lousewort (*Pedicularis dudleyi*), a Forest Service sensitive plant species, occurs at scattered locations along the main stem of the Little Sur River for a distance of about 4 miles. These known populations occur west of the administrative boundary of the Los Padres National Forest eastward to the confluence with Jackson Creek. About 1,100 plants are estimated to occur within one-quarter mile of the river based on records from the 1980s. No recent or systematic efforts have been made to determine the exact distribution and abundance of this species in the watershed.

Dudley's lousewort is found in undisturbed redwood forests canyons, sometimes on slightly disturbed locations, and in loose soil. Dudley's lousewort is listed as Rare by the State of California and is listed by

the California Native Plant Society (2001) as 1B (plants rare, threatened, or endangered in California and elsewhere). Trampling by hikers and equestrians and trail maintenance have been identified as threats to the plants found in the Little Sur River watershed.

This population is considered special at the scale of the central coastal region of California and at the national forest scale. Other populations of Dudley’s lousewort are found in San Luis Obispo County, Santa Cruz County, and San Mateo County. Statewide, there are fewer than 10 known locations for this species.

Determination: Dudley’s lousewort is an outstandingly remarkable botanical value due to its local dependence on redwood forests and associated riparian habitat. The population of Dudley’s lousewort found in the Little Sur River is not unique; however, the cluster of colonies present in the watershed collectively constitute the largest known population, and together there are more plants here than in all the other populations combined. Due to the fact that Dudley’s lousewort is found only on the central coast of California and nowhere else in the world and given that the largest and most robust population is found on the Little Sur River, these occurrences constitute an outstandingly remarkable value.

Summary of Outstandingly Remarkable Values:

Botany

The cluster of colonies of Dudley’s lousewort found on the main stem of the Little Sur River collectively constitute the largest known population found anywhere in the world.

Potential Classification

Table 439. Little Sur River - Potential Classification by River Segment

	Segment 1	Segment 2
WILD RIVER		
Free of impoundments	Yes	No
Generally inaccessible except by trail	Yes	No
Watersheds or shorelines essentially primitive	Yes	No
Waters unpolluted	Yes	Yes
SCENIC RIVER		
Free of impoundments		No
Accessible in places by roads		Yes
Watershed largely primitive and undeveloped		Yes
RECREATIONAL RIVER		
Some impoundments or diversions in past		Yes
Readily accessible by road or railroad		Yes
Some development along shoreline		Yes
Eligibility Status	Wild	Recreation

Suitability Report

Description

Landownership and Land Uses

Segment 1: This segment includes the main stem of the Little Sur River from the headwaters to the boundary of the Ventana Wilderness in the west one-half of T18S, R2E, Sec 31. The total length is approximately 4.9 miles.

Segment 2: This segment originates at the Ventana Wilderness boundary at the boundary with private land in Section 31 and continues to the administrative boundary of the Los Padres National Forest along the western boundary of T18S, R1E, Sec 25. The 3.3-mile total length is composed of about 1.2 miles of National Forest System (NFS) land and 2.1 miles on private lands. The forest segment also encompasses a 0.5-mile length of the Pico Blanco Boy Scout Camp. In addition to several buildings, the developments include a cement impoundment on the river to create a recreational pond.

Table 446. Little Sur River - Segment Description

River Segment	Miles	Boundaries	Ownership	Zoning/Land Use
1	0 - 4.9	Headwaters North Fork to Wilderness Boundary	NFS (1362 acres)	Wilderness
2	4.9 - 8.2	Wilderness boundary to Forest boundary	NFS (276 acres) and non-federal (614 acres)	NFS: dispersed recreation. Non-federal: Rural, includes organization camp and potential mining

All private lands within these river segments are designated in the Monterey County General Plan as “Rural”. These lands are zoned primarily for grazing and very low-density residential housing.

The river mile location is from the source (see table 446: Little Sur River - Segment Description).

Mineral and Energy Resource Activities

Granite Rock Corporation has a perfected claim and plans to develop the limestone deposits on Pico Blanco. During public meetings for the Los Padres Land and Resource Management Plan Revision, representatives of Grant Rock emphasized that the company still intends to develop this claim. The timing of this development is unknown.

Water Resources Development

The Pico Blanco Boy Scout Camp has a cement impoundment on the river to create a recreational pond within segment 2. There are no known Federal Energy Regulatory Commission applications or permits.

Transportation, Facilities and Other Developments

Recreation facilities in the river area are:

Jackson Camp primitive campsite within Ventana Wilderness near western boundary of the wilderness.

Little Sur primitive campsite, Section 25, T18S, R2E, outside of wilderness.

Trail access crosses one parcel of NFS land surrounded by private land to Pico Blanco camp.

One mile of the Little Sur Trail (1E03) from Pico Blanco to the primitive Jackson Camp within the Ventana Wilderness.

Trail from road to Little Sur primitive campsite and river.

A road parallels the river through non-federal land for approximately one mile before terminating at Pico Blanco camp.

Several buildings and structures are associated with Pico Blanco Boy Scout Camp in segment 2.

A locked gate prohibits access to the private land outside of the Ventana Wilderness and restricts vehicular access to the Little Sur River. Trail access from the south side of the river requires about 6 miles of hiking from the Old Coast Road outside of the forest boundary.

Recreation Activities

Current uses include hiking, backpacking, rock climbing, Boy Scout camps, sunbathing, nature study, bird watching, fishing and hunting.

Other Resource Activities

There is grazing on private land in segment 1. Timber harvesting may occur on private land in segment 2. Prescribed burning is planned along road and trail corridors to protect existing developments from wildfire.

Special Designations

Segment 1 is within the Ventana Wilderness.

Socio-Economic Environment

Big Sur is an unincorporated area of Monterey County with dispersed rural housing and communities. Monterey is approximately 20 miles north from the mouth of the river. Real estate values are high in this area and economic development is primarily limited to tourism. This is an international destination to visitors with renowned scenery. Designation as a Wild and Scenic River would have a negligible impact on the local economy. Recreation use patterns would not be affected.

Current Administration and Funding Needs if Designated

The USDA Forest Service administers all NFS land. The Little Sur Protected Waterways Management Plan, which is part of the Monterey County Local Coastal Program, protects that portion of the river on private or State land.

	Expenses Independent of Designation	Additional Expenses with Designation
General Administration *	\$2,050	\$31,950
Development of River Management Plan	\$0	\$150,000
Development Costs	\$0	\$5,000
Operation and Maintenance Costs	\$10,250	\$4,750
Total Cost First Five Years	\$12,300	\$191,700

* General administration and operation and maintenance costs are estimated to continue at \$3,000 annually.

Suitability Factor Assessment:

1. Characteristics that do or do not make the area a worthy addition to the National System.

Not worthy: Botany is the only outstandingly remarkable value for the Little Sur River. Dudley’s lousewort (*Pedicularis dudleyi*), a Forest Service sensitive plant species, occurs at scattered locations along the main stem of the Little Sur River for a distance of about four miles. Dudley’s lousewort is also found in other locations including San Luis Obispo County and is currently protected through Forest Service sensitive species guidelines.

2. The current status of land ownership and use in the area.

Granite Rock Company owns a mining claim on Pico Blanco Mountain. This claim contains a limestone deposit that is the largest mass of chemical quality, uniform grade white-grinding limestone in the western United States. Granite Rock Company fully intends to mine this deposit.

The local Boy Scout Council owns Pico Blanco Boy Scout Camp. The camp is used year-round; however, the primary use season is during the summer. There are several structures within the river corridor. A seasonal impoundment is used during the summer months to create a swimming hole.

3. *The reasonable foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the National System.*

There are no current proposals for water development. Voluntary compliance with the Wild and Scenic Rivers Act would be emphasized with private landowners within the river corridor.

4. *The federal agency that will administer the area, should it be added to the National System.*

USDA Forest Service.

5. *The extent to which the agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.*

No proposal to share costs exists.

6. *The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the National System.*

The costs of acquiring private land within the corridor are estimated to be several million dollars. Acquisition of private land would be on a willing seller basis only.

7. *A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river, should it be proposed for inclusion in the National System.*

Participation is unexpected.

8. *State and/or Local government's ability to manage and protect the outstandingly remarkable values on non-federal lands.*

Private land within the river corridor in segment 2 is currently managed under the Little Sur River Protected Waterway Management Plan.

9. *Support or opposition to designation.*

In a letter dated April 15, 1994, attorneys representing Mr. James Hill III of the El Sur Ranch note that they oppose candidacy for Wild and Scenic River status based on already existing protection via the Little Sur River Protected Waterway Management Plan; roads, houses and other improvements which border with the north and south forks of the river as well as the main body of the river; and on concern that designation would result in increase of human visitation in the remote areas of the Ranch or in activities which might create a potential for increasing trespass on the Ranch property.

10. *Contribution to river system or basin integrity.*

The length of the river within the Ventana Wilderness boundary is already protected by designation as wilderness.

Forest Plan Alternatives

Briefly describe how a particular river was treated in each of the forest plan alternatives:

Alternative 1: No designation is recommended for either segment.

Alternative 2: No designation is recommended for either segment. The only identified ORV is botany. Designation would not promote a balance between recreation and scenery values with the need to protect botanical values.

Alternative 3: Segment 1 is recommended for wild river designation, consistent with the existing wilderness. Segment 2 is recommended for recreation river designation due to the presence of roads and developments on private land. The North Fork of the Little Sur River has botany as an ORV. The recommended designation balances the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable botanical values with the conservation of a wide range of wildlife and plant species (especially threatened, endangered and sensitive) and habitats, biodiversity, linkages and corridors.

Alternative 4: No designation recommended for either segment. The ORVs do not include recreation or scenery.

Alternative 4a: No designation recommended for either segment.

Alternative 5: No designation recommended for either segment.

Alternative 6: Segment 1 is recommended for wild river designation, consistent with the existing wilderness. Segment 2 is recommended for recreation river designation due to the presence of roads and developments on private land. The recommended designation protects and enhances a wide range of values and features, including species conservation, biodiversity, open space, natural beauty, recreation and research.

Suitability Determination for the Selected Alternative

Describe the rationale for the suitability determination of the selected Alternative 4a:

Neither segment 1 or 2 is recommended for designation. The outstandingly remarkable value (ORV) for the river is a sensitive plant species. The NFS land in segment 1 is designated as wilderness and this designation protects the area from impacts from human use of the wilderness. This should be adequate protection for this plant. The plant can be monitored and if change in populations or habitat are occurring, then appropriate measures can be taken to protect the plant.

The ORV can be protected on NFS lands in segment 2 in the same manner. On private land, protection would be done under the existing Little Sur River Protected Waterway Management Plan.

Mono Creek

Study Area Summary

In November of 1993, the Los Padres National Forest published Amendment No. 2 to the Forest Land and Resource Management Plan identifying Mono Creek for eligibility and suitability evaluation as a potential addition to the National Wild and Scenic River System.

Name of River: Mono Creek

Location: State of California, Santa Barbara County, Los Padres National Forest

Mono Creek is considered to be free flowing below a point in the Dick Smith Wilderness in Don Victor Canyon within the southeastern corner of T7N, R26W, Sec 1, SBBM) and then flows in a generally southern direction. For the purposes of this study, Mono Creek was divided into two segments.

Segment 1: Segment 1 continues downstream from the source to where Mono Creek leaves the Dick Smith Wilderness in Township 7 N., Range 25 W., Section 28, SBBM.

Segment 2: From the Dick Smith Wilderness boundary to the upper extent of the Mono Debris Basin in the northeast corner of Township 5 N., Range 26 W., Section 5, SBBM. Private lands encompass approximately one-half mile of segment 2.

River Mileage:

River Segment	Miles Studied	Miles Eligible
1	4.5	4.5
2	19.7	19.7

Studied: 24.2 miles

Eligible: 24.2 miles

Eligibility Inventory

Free-flow Determination:

Mono Creek has neither past or current diversions nor impoundments above Mono Debris Basin.

Determination of Outstandingly Remarkable Values (ORVs):

1. Scenery

Description: The length of Mono Creek offers a mixture of scenic attractiveness class "A" and "B" landscapes. Scenic attractiveness class "A" landscapes are distinctive within the Southwest Mountain and Valley Character type. Mono Creek is partially distinctive not only because of the presence of water, but also because of the mix of landform, color and vegetation.

From the headwaters to Don Victor Valley, the water is intermittent with the landforms showing some color contrasts with the shale and sandstone. The vegetation includes some bigcone Douglas-fir on the north slopes but overall is a scenic attractiveness class "B" landscape. At Don Victor, the landscape opens with grass, juniper, and rabbit brush dominating the vegetation types. This area has the feel of the high desert. The water meanders through the length.

Through the confluence with Roblar Canyon to the Narrows, chaparral, oaks, some willows, and sycamores dominate with small pools of water and a still intermittent stream. At the Narrows, the landform is extremely steep with sandstone benches offering dramatic color contrasts. There are large deep pools, slides, and small waterfalls. The area features very narrow canyons, big rocks, and water from wall to wall. Access through this section is only by swimming the watercourse. The creek winds its way through the rock, with scenery including bigcone Douglas-fir in the side canyons, many bare rock slopes, and 10 to 15 foot waterfalls. This area is seldom visited because of the limited access.

At Ogilvy Ranch, there are terraces with a grass savannah look and only intermittent water. This area has a narrow riparian belt with chaparral dominating the vegetation. This section offers views of Hildreth Peak and other vistas. South of Ogilvy Ranch, the landscape opens even more with deep pools and cattails. A concrete crossing is evident where Mono Creek reaches Camuesa Road (National Forest System Road (NFSR) 5N15) and the impacts of humans become more noticeable resulting in class "B" landscape.

Determination: Scenic values are not considered to be outstandingly remarkable. Although there are some distinctive landscapes, there are better examples of these scenic features along the designated Wild and Scenic Sisquoc River.

2. Recreation:

Description: From the headwaters through Don Victor Canyon, flows are intermittent with limited recreational opportunities. Only partially accessible by primitive trail, the deep canyon offers no vistas.

On entering valley between Don Victor Canyon and the Narrows, vistas open to oak-savannah flats with some desert characteristics. Water flows are intermittent and underground most of year providing little

recreation opportunity. A little used primitive trail follows Mono Creek downstream from Roblar Canyon.

At the Narrows, Mono Creek is dramatic and provides a unique recreation opportunity with large, deep pools, sandstone benches, large rock formations, and waterfalls. Bigcone Douglas-fir in side canyons adds to the uniqueness. Swimming is the only access. A primitive trail along the bottom intersects the Mono/Alamar Trail (Forest Trail 26W07). The unique character of rocky, isolated canyons with sandstone formations and deep pools in dramatic settings.

Below the privately owned Ogilvy Ranch, the trail turns into abandoned jeepway. There are many deep pools available for swimming lined by sandy beaches with cattails. Vistas of Hildreth Peak and San Rafael Range are available.

Ogilvy Ranch is a developed homestead with multiple structures, orchards, and an airstrip. This area is more accessible to the average hiker and to shorter equestrian rides of one to three days. Cottonwoods and willows form a unique riparian forest, which offers visitors an opportunity to experience a diverse ecosystem with views of wilderness backcountry.

Although Mono Creek does provide many of the same dispersed and wilderness recreational opportunities as the adjacent Indian Creek drainage, foot, hoof, and wheel access is not heavily apparent because of reduced trail access. Recent abandonment of portions of the Victor/Loma jeepway (NFSR 7N05) in the lower reaches on Mono Creek and to the north in Don Victor Valley has greatly reduced public access. Use is estimated to be 150 visitor days per year with approximately 95 percent of the use coming from Santa Barbara and Ventura Counties. A portion of the remaining 5 percent includes out of state and international visitors.

Determination: Recreation values are not considered to be outstandingly remarkable.

3. *Geology*

Description: Mono Creek is located in the Coast Ranges of central California. This is a geologically young mountain range that was uplifted to its present height about 400,000 years ago. The range includes Mesozoic age rocks that represent a subduction zone complex (the Franciscan Complex), a magmatic arc (plutonic and metamorphic rocks of the Salinian Block), and forearc basin sediments (the Great Valley Sequence). It also includes younger Tertiary marine sediments and Quaternary largely non-marine sediments.

The trend of upper Mono Creek is subparallel to the fold axis of a syncline. As the creek flows south, it crosses the Big Pine Fault and flows through the Matilija Sandstone and Cozy Dell Shale. Mono Creek primarily follows the outcrop pattern of the Matilija Sandstone as it bends around the nose of an anticlinal fold. It follows a westerly trend as it goes through more shale units and then takes a more southwesterly bend as it begins to encounter more resistant sandstone units that are interbedded with the shale. Towards the lower end of its reach, Mono Creek flows almost perpendicular through more anticlinal and synclinal folds involving the Monterey, Espada, and Cachuma Formations. Landslides occur adjacent to the stream in the Espada Formation.

Determination: The sedimentary rock formations and structural features of the Coast Ranges found in the Mono Creek drainage are not considered to be outstandingly remarkable in comparison with similar features located elsewhere in this geologic province, particularly Indian Creek.

4. *Fish and Wildlife*

Description: The Mono Creek study area provides habitat typical of southern California third order streams; however, due to its rather pristine nature and its juxtaposition with the Santa Ynez River, it provides for a very unique assemblage of threatened, endangered, and sensitive species. With the exception of a small and marginal population of bullfrogs (a few individuals), the section upstream of the Mono Debris Dam is currently devoid of exotic aquatic species such as green sunfish, small-mouth bass

and flathead minnow. These and many other exotic fishes inhabit many other similar stream systems on the forest. This stream has received unacceptable impacts from off highway vehicle trespass associated with an access road leading to private property in Mono Creek. This access road, with over 18 stream crossings, has been abandoned as an access route due to its impacts on the arroyo toad, federally listed as endangered; California red-legged frog, threatened; southern Pacific pond turtle, state listed rare and Forest Service sensitive; and two-striped garter snake, Forest Service sensitive. Habitat also exists to support the federally listed as endangered least Bell's vireo and southwestern willow flycatcher. The upper headwaters area of Mono Creek also provide habitat for the California spotted owl and an historic nest site of the California condor.

This ecosystem is approximately 12 miles long, providing habitat for wide ranging animals (large territories) such as mountain lion and black bear. The area also provides for adequate genetic interchange between species that require this ecosystem for reproductive purposes.

The Mono Creek study area provides habitat for a highly diverse assemblage of aquatic and riparian species, which make this one of the most unique streams in southern California. Because Mono Debris Dam acts essentially as a barrier to upstream fish movement, the section above can be considered a refugium for native fishes and to some extent amphibians. There are very few streams on the Los Padres National Forest that share this feature.

Mono Creek is home for one of the largest populations of arroyo toad (*Bufo californicus*), a federally listed endangered species, on the Los Padres National Forest and the largest in the northern half of its range in southern California and Baja California. The creek includes nine miles of federally designated critical habitat for the species.

Portions of Mono Creek contain two miles of federally designated critical habitat for least Bell's vireo (*Vireo bellii pusillus*), a federally and state listed endangered species. About three-quarter of a mile of habitat exists above the debris dam within the study area. The remaining 1.25 miles are along Mono Creek below the dam and are outside the study area. The vireo is known to nest in the critical habitat below the debris dam. In addition, there are recent reports of southwestern willow flycatcher (*Empidonax traillii extimus*), a federal and state listed endangered species, in the same area during late spring, which suggests the possibility of nesting.

Suitable habitat for least Bell's vireo and southwestern willow flycatcher, consisting of large patches of mature willow/cottonwood riparian with relatively dense understory of shrub/willow components, is rare along the rivers of the four southern California national forests. Known nesting populations are small and widely separated. There are patches of suitable habitat for both species scattered for about one mile above the debris dam and for about one mile below. This two-mile segment encompasses the critical habitat for the vireo mentioned earlier. Although least Bell's vireos are not yet known to nest in the study segment of Mono Creek, there is a reasonable expectation that future surveys will find nest sites. The largest known nesting population of least Bell's vireo on the Los Padres National Forest and north of San Diego County is located along Mono Creek and the Santa Ynez River below the Mono Debris Basin. It is also reasonable to expect surveys will confirm nesting by the southwestern willow flycatcher in this area. If nesting by least Bell's vireo is confirmed in the study segment, the newly discovered territories can be considered an expansion of the current known nesting population, and the discovery of nesting southwestern willow flycatchers in the segment would represent only the third such occurrence on the national forest.

California red-legged frog (*Rana aurora draytonji*), a federally listed threatened species, is found in suitable habitat along the entire length Mono Creek. Mono Creek includes six miles of federally designated critical habitat for this species. Southern Pacific pond turtle (*Actinemys marmorata pallida*), a state listed rare and Forest Service sensitive species, and two-striped garter snake (*Thamnophis hammondi*), a Forest Service sensitive species are found in suitable habitat throughout the drainage.

The upper headwaters area of the Mono Creek watershed provides habitat for the California spotted owl (*Strix occidentalis occidentalis*), a Forest Service sensitive and state listed rare species, and a historic nest site of the endangered California condor (*Gymnogyps californianus*) exists on one of the large cliff faces that frame the upper terminal basin of the watershed. The upper reaches of the Mono Creek watershed are within federally designated critical habitat for the California condor.

Determination: The study segment of Mono Creek supports a number of unique biotic features. When considered together they represent an outstandingly remarkable value. These features include: the presence of a relatively high number of secure populations of threatened, endangered, and sensitive species; a population of endangered arroyo toads; evidence that two species of endangered birds probably nest; lack of exotic aquatic species; and largely unaltered riparian and aquatic habitats along with the high species diversity they support.

5. Heritage resources (Cultural)

Description: Portions of the Mono Creek corridor have been surveyed for heritage resources. As such, the knowledge of the span and complexity of Native American use of the corridor is good with many sites known to be located within the watershed. The Native American sites recorded represent a diversity of site types that have the potential to contribute information regarding such topics as manufacturing techniques, diet, and trade as well as the everyday life of the Native American inhabitants of the corridor. Sites in the area attest to the use of the area by the Chumash with many of the sites were known in ethnographic times. The sites and features recorded within the corridor are common in the local area and region, and while significant on a local level, they are not rare or unique or have national or regional importance for interpreting prehistory.

Determination: Cultural values are not considered to be outstandingly remarkable.

6. Heritage resources (Historic)

Description: Portions of the Mono Creek corridor have been surveyed for heritage resources. The knowledge of the span and complexity of historic use of the corridor is good and several sites are known to be located within the corridor. The known resources are associated with homesteading and ranching activities (Ogilvy Ranch Adobe, and Jones Adobe). The sites identified are not rare, unique or noteworthy enough to have significance beyond the local level.

Determination: Historic values are not considered to be outstandingly remarkable.

7. Other (Botany)

Description: The botanical resources of the Mono Creek are poorly known to the rough terrain and isolation of this study river segment. Riparian vegetation consists of various species of willow and oak. Based on a review of existing literature, there are no known occurrences of endangered, threatened, proposed, candidate, or sensitive plant species within one-quarter mile of Mono Creek.

Determination: Botanical values are not considered to be outstandingly remarkable.

Summary of Outstandingly Remarkable Values:

Wildlife

The presence of a relatively high number of secure populations of threatened, endangered, and sensitive species; a population of endangered arroyo toads; evidence that two species of endangered birds probably nest; lack of exotic aquatic species; and largely unaltered riparian and aquatic habitats along with the high species diversity they support.

Table 440. Mono Creek - Potential Classification by River Segment

	Segment 1	Segment 2
WILD RIVER		
Free of impoundments	Yes	Yes
Generally inaccessible except by trail	Yes	No
Watersheds or shorelines essentially primitive	Yes	No
Waters unpolluted	Yes	Yes
SCENIC RIVER		
Free of impoundments		Yes
Accessible in places by roads		Yes
Watershed largely primitive and undeveloped		Yes
RECREATIONAL RIVER		
Some impoundments or diversions in past		
Readily accessible by road or railroad		
Some development along shoreline		
Eligibility Status	Wild	Scenic

Potential Classification

See table 440: Mono Creek - Potential Classification by River Segment.

Suitability Report

Description

Landownership and Land Uses

There are approximately 146 acres in private ownership within the corridor of Mono Creek in T6N, R26W, Sec 22. This parcel is locally known as the Ogilvy Ranch. It is occasionally used for private recreational purposes. The lower reach of Mono Creek flows over a debris dam owned by the City of Santa Barbara prior to emptying into the Santa Ynez River. The remainder of the corridor is in federal ownership.

River mile location is from the source (see table 447: Mono Creek - Segment Description).

Table 447. Mono Creek - Segment Description

River Segment	Miles	Boundaries	Ownership	Zoning/Land Use
1	0 - 4.5	Headwaters to wilderness boundary	NFS (1418 acres)	Wilderness
2	4.5 - 24.2	Wilderness boundary to Mono Debris Basin	NFS (4952 acres) and non-federal land (146 acres)	NFS: dispersed non-motorized recreation, pre-suppression fire activities. Non-federal: Rural, occasional recreation use

Mineral and Energy Resource Activities

There is no known potential for mineral and energy development.

Water Resources Development

There are no known plans for hydroelectric or other water development.

Transportation, Facilities and Other Developments

Forest Trail 25W03 parallels the Mono Creek corridor in segment 1 (Don Victor Canyon). This trail is not currently maintained. Trail 26W07 (Mono/Alamar) parallels the southern portion of segment 2 to Ogilvy Ranch. At Ogilvy Ranch, the trail becomes an abandoned jeepway that joins NFSR 5N15 near Mono Campground.

Recreation Activities

Minimal recreational opportunities exist because of limited and primitive access. There is a swimming hole at the Narrows, accessed by a primitive trail that connects to the Mono/Alamar Trail (Forest Trail 26W07). The Mono/Alamar Trail becomes an abandoned jeepway below Ogilvy Ranch and south to NFSR 5N15. The jeepway is used for access to the Ogilvy Ranch.

Other Resource Activities

The abandoned jeepway between Ogilvy Ranch and NFSR 5N15 is used by the landowner for access and by the Forest Service for administrative needs. The property owner maintains the travelway annually. Ridge top fuelbreaks are maintained through vegetation removal and prescribed fire. Trail maintenance is performed on the Forest Service system trails described above to minimize resource damage. The populations and habitats of arroyo toads, California red-legged frogs, least Bell’s vireo, and southwestern willow flycatcher are intensively monitored within the Mono Creek drainage.

Special Designations

The headwaters and all of segment 1 of Mono Creek are in the congressionally designated Dick Smith Wilderness.

Socio-Economic Environment

The Santa Barbara front is the closest urban area is within eight miles of Mono Creek. The Santa Ynez Valley contains the communities of Buellton, Santa Ynez, Solvang, and Los Olivos. Vehicular access to Mono Creek is limited by seasonal closures and long drive times over low standard roads. Use in the Mono Creek corridor is limited to non-motorized activities. The landowner occasionally accesses the Ogilvy Ranch. Designation as a Wild and Scenic River would not change the existing use patterns. Existing use would not threaten the outstandingly remarkable values.

Current Administration and Funding Needs if Designated

	Expenses Independent of Designation	Additional Expenses with Designation
General Administration *	\$3000	\$31,000
Development of River Management Plan	\$0	\$150,000
Development Costs	\$0	\$0
Operation and Maintenance Costs	\$15,000	\$5,000
Total Cost First Five Years	\$18,000	\$186,000

*General administration and operation and maintenance costs of designated river are estimated to continue at \$4,000 annually.

Suitability Factor Assessment:

1. Characteristics that do or do not make the area a worthy addition to the National System.

Worthy: Even without considering the pristine nature of the river corridor, the presence of a number of secure populations of federally threatened, endangered, and sensitive wildlife including the California

red-legged frog and arroyo toad, and evidence that two species of endangered birds (least Bell's vireo and southwestern willow flycatcher) might nest here are important. However, the most remarkable feature of Mono Creek is these populations are especially secure because the habitats are mostly unaltered and there is a general lack of exotic aquatic competitor species, which are known to adversely affect populations of native wildlife. Designation would as a Wild and Scenic River would support efforts to maintain and improve habitat.

2. *The current status of land ownership and use in the area.*

The Ogilvy Ranch Historic Adobe with additional outbuildings is on a private inholding. This Ranch is an occasional recreational retreat for its owners. There are 146 acres of the Mono Creek corridor on private land.

3. *The reasonable foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the System.*

Mono Creek is within a section of Los Padres National Forest referred to as Mono Basin, which includes a section of the middle Santa Ynez River and all of Indian and Aqua Caliente Creeks. Past surveys have shown that the varied habitats in Mono Basin support an unusually rich diversity of species, several of which are federally protected. For this reason, Mono Basin is being considered for a special interest area designation in the revised Los Padres Land and Resource Management Plan, where wildlife research, viewing and interpretation would be emphasized. Designation of Mono Creek as Scenic or Wild would not curtail these activities.

4. *The federal agency that will administer the area, should it be added to the System.*

USDA Forest Service.

5. *The extent to which the agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.*

No proposals to share costs with State and local agencies exist.

6. *The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the system.*

The Ogilvy Ranch has been listed for sale at a price that exceeds \$1,000,000 and has not yet sold. The Forest Service has the authority to purchase at fair market value and that value has not been established.

7. *A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river, should it be proposed for inclusion in the System.*

Not significant to the State or other entities.

8. *The consistency of designation with other agency plans, programs or policies.*

A consideration in this revision is the creation of the Mono Basin Special Interest Area to highlight the unique assemblage of threatened, endangered, and sensitive species and their habitat. The designation of Mono Creek as a Wild and Scenic River would be consistent with the creation of a special interest area.

Forest Plan Alternatives

Briefly describe how a particular river was treated in each of the Forest Plan alternatives:

Alternative 1: No segments are recommended for designation.

Alternative 2: Segments 1 and the portion of segment 2 above Ogilvy Ranch are recommended for wild river designation. The portion including and below Ogilvy Ranch is recommended for scenic designation. Administrative jeep trails from P-Bar to and across Mono Creek (6N17, 6N30, 6N24) provide access to Ogilvy Ranch and on the boundary of the Dick Smith Wilderness. A scenic designation

would allow for continued road and trail maintenance and access, and for heritage interpretation. This recommended designation provides the best balance of recreation and scenery values with the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable values.

Alternative 3: Segments 1 and the portion of segment 2 above Ogilvy Ranch are recommended for wild river designation. The portion below and including Ogilvy Ranch is recommended for scenic designation. Administrative jeep trails from P-Bar to and across Mono Creek (6N17, 6N30, 6N24) provide access to Ogilvy Ranch and on the boundary of the Dick Smith Wilderness. A scenic designation would allow for continued road and trail maintenance and access, and for heritage interpretation. The recommended designation balances the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable values with the conservation of a wide range of wildlife and plant species (especially TES) and habitats, biodiversity, linkages and corridors.

Alternative 4: No segments are recommended for designation. The ORVs do not include recreation or scenery.

Alternative 4a: No segments are recommended for designation.

Alternative 5: No segments are recommended for designation.

Alternative 6: Segments 1 and the portion of segment 2 above Ogilvy Ranch are recommended for wild river designation. The portion below and including Ogilvy Ranch is recommended for scenic designation. Administrative jeep trails from P-Bar to and across Mono Creek (6N17, 6N30, 6N24) provide access to Ogilvy Ranch and on the boundary of the Dick Smith Wilderness. A scenic designation would allow for continued road and trail maintenance and access, and for heritage interpretation. The recommended designation would protect and enhance a wide range of values and features, including species conservation, biodiversity, open space, natural beauty, recreation, and research.

Suitability Determination for the Selected Alternative

Describe the rationale for the suitability determination of the selected alternative 4a:

Recommend against designation. Segment 1 is already in congressionally designated wilderness and segment 2 is in a wildland setting that is recommended for the Mono Wildlife Special Interest Area.

Piru Creek

Study Area Summary

Name of River: Piru Creek

Location: State of California, Ventura and Los Angeles County, Los Padres National Forest (Segments 1-4 and 6-7)

The Los Padres National Forest administers segments 1-4 and 6-7, while the Angeles National Forest administers segment 5. Study mileage in the EIS tables is listed under the forest that administers the segment. However, for the convenience of the reader the following report includes all river segments.

The study for Piru Creek includes the main stem from its origin downstream to the maximum pool of Pyramid Lake and from 300 feet below the dam at Pyramid Lake downstream to the maximum pool at Lake Piru. For the purposes of this study, Piru Creek has been divided into seven segments. Segments 1 through 4 are located referred to as upper Piru and segments 5 through 7 are referred to as lower Piru.

Upper Piru

Segment 1: Piru Creek is considered to be free flowing below a point in the Sespe Wilderness in the southwest corner of T6N, R22W, Sec 3. Segment 1 includes the main stem from its source within the Sespe Wilderness to the wilderness boundary along the eastern edge of T7N, R21W, Sec 31, SBBM.

Segment 2: From the Sespe Wilderness boundary to one-quarter mile below Gold Hill crossing (T7N, R19W, Sec 18, SBBM).

Segment 3: From one-quarter mile below Gold Hill crossing downstream to the Castaic Mine located on private land in T7N, R19W, Sec 22, SBBM.

Segment 4: Downstream from Castaic Mine to the maximum pool of Pyramid Lake.

Lower Piru

Segment 5: Starts 300 feet below Pyramid Lake Dam and continues downstream to the Sespe Wilderness boundary in southwest corner of T6N, R18 W, Sec 14, SBBM.

Segment 6: Starts at the Sespe Wilderness boundary and ends where Piru Creek leaves the Sespe Wilderness in T5N, R18N, Sec 4, SBBM.

Segment 7: Starts at the Sespe Wilderness boundary and continues downstream to the maximum pool of Lake Piru.

River Mileage:

River Segment	Miles Studied	Miles Eligible
1	5.8	5.8
2	20.4	20.4
3	4.7	4.7
4	7.6	7.6
5	3.7	3.7
6	12.7	12.7
7	2.4	2.4

Studied: 57.3 miles (53.6 on Los Padres National Forest)

Eligible: 57.3 miles (53.6 on Los Padres National Forest)

Eligibility Inventory

Free-flow Determination:

There are no impoundments.

Dams at Pyramid Lake and Lake Piru impound Piru Creek. California Department of Water Resources controls releases from Pyramid Lake. In the 1990's, sporadic releases were made that caused radical, rapid fluctuations in water levels. Complaints were lodged from numerous river users caught unaware of the sudden water level changes. The releases have been somewhat tempered lately. The reason is not certain, but it may be due to the complaints and to wildlife values downstream that depend on flows more closely mimicking natural flow regimes prior to the installation of the impoundments.

As stated on page 15 of the Q&A Section of the Wild and Scenic River Reference Guide, "...any section of river with flowing water meets the technical definition of free flowing, even if impounded upstream." Thus, segments 5, 6, and 7 are considered free flowing.

Determination of Outstandingly Remarkable Values (ORVs):

1. Scenery

Description: Approximately 80 percent of Piru Creek is scenic attractiveness class "A" landscape, within the Southwest Mountain and Valley Character type. It is distinctive not only because of the presence of water, but also because of the mix of landform, color and vegetation that offer a variety that is distinctive.

Upper Piru Creek

The headwaters of Piru Creek show little presence of water. The character is one of openness with great color contrasts of buff and white against the deep greens of tall pines. Near Thorn Meadows, there is a sense of enclosure as the land flattens and human encounters are more prevalent in the intermittent pools. Piles of rocks in a forested setting are mixed with the pools. The creek moves through narrow and broader spaces among the vertical trees and creates a remarkable setting.

From Lockwood Flat, the river proceeds through a canyon gorge that is very rocky and has steep slopes with sparse vegetation on the south slopes. The distinct riparian zone is nearly 100 feet wide as Piru Creek is seasonally fast moving and turbulent as canyon wall springs add water to the flow. The creek then widens out as it approaches the Goldhill area.

After Goldhill, the canyon again tightens to only 50 to 60 feet wide. The flow proceeds over steeper landscapes with many boulders and sharp rock outcrops. Although the vegetation is sparse, the chaparral clings to the canyon walls and the horizontal lines of the bluffs and dramatic whites and buff colors are dominant. Beyond Snowy Creek, the creek twists and turns and creates a sense of coming out of the mountains as it enters a landscape more typical of the character type. This landscape only serves as a contrast to the drama of the other sections.

At Buck Creek, Piru Creek enters a new gorge creating strong enclosure within the steep walls. The rich colors of the riparian vegetation have openings to views of chaparral covered and barren slopes. Soils and rock outcrops turn brick red, creating contrasts with the perennial water and the sounds moving quickly past large boulders and moisture in the air as the creek flows into Pyramid Lake.

Lower Piru Creek

Below Pyramid Lake, the vegetation is less dramatic, and the river has many twists and turns. At Ruby Canyon, there are rock outcrops, steep slopes, and strong side canyon drainages. The riparian vegetation is less dramatic with limited variation as the creek widens and straightens out its course. Views are of a savannah, chaparral landscape.

Determination: Scenic values are not considered to be outstandingly remarkable.

2. Recreation

Description:

Upper Piru Creek

The upper portion of Piru Creek above Pyramid Lake offers visitors from southern California a chance to recreate in and around a stream corridor with a year-round stream. Visitors are allowed access into a variety of settings including steep canyon walls as well as open stretches with panoramic views of the creek and surrounding countryside. Access varies from hiking and horseback to off highway vehicle routes and forest development roads. There are a variety of camping opportunities along the stream channel.

Segment 1: The headwaters of Piru Creek lie within the Sespe Wilderness. Within the Wilderness, there exists the opportunity for hiking and horseback riding along trails, which parallel and cross portions of both the main stem and the South Fork of Piru Creek. Several small campgrounds (1 to 4 units) as well as the opportunity for general forest camping are available. There are opportunities for solitude along the stream; however, spring and early summer weekends often find popular areas such as the Fishbowls mildly congested with users who have come to fish or just soak in the pools.

Segment 2: The section between Thorn Meadows and Halfmoon Campground has a graded dirt road paralleling and crossing the creek with the road rarely being more than 200 yards distant. This portion sees moderate to heavy use from users driving for pleasure or using the road to link off highway vehicle

routes in the area. This portion is popular with woodcutters in the summer and fall, and with hunters during the fall deer season.

Between Halfmoon and Goldhill Campgrounds, the stream corridor is utilized primarily by off highway vehicle users along the Piru Off Highway Vehicle Route. The first three miles downstream from Halfmoon Campground is open to motorized vehicles. From that point downstream, the route is open only to motorcycles. Most of the use is day use; however, some users take the opportunity to camp along this section. This area also sees some hunters during the deer season. The off highway vehicle route along the stream corridor provides an unusual experience for users since portions of the route are within the stream channel. This provides a challenging and different experience than is not readily available in southern California.

The Goldhill area is a popular camping area and day use destination. An improved road accesses the area and crosses Piru Creek as it continues on to Alamo Mountain. In addition to camping, many visitors use Goldhill as a staging area for off highway vehicle rides on routes in the surrounding area and use the opportunity to soak in the creek.

Segment 3: From Goldhill to Snowy Off Highway Vehicle Routes, access for the general public is only available by scrambling cross-country or often down the stream itself. The occasional hunter, fisherman and adventurous hiker can find solitude and a landscape showing little evidence of man's presence. The private landowner has a four-wheel drive access road to the Castaic Mine, which is in this segment of the creek.

Segment 4: The junction of Snowy Off Highway Vehicle Route and Piru Creek provides motorcyclists an opportunity to cool down either before or after they have traversed one of the more difficult motorcycle routes on the Mount Pinos District. This challenging route is well known throughout the southern California off highway vehicle community.

Between Snowy Crossing and Hardluck Campground, access is once again limited to the hiker scrambling down the stream channel. The opportunities for solitude exist; however, this segment lacks the spectacular scenery of the gorge below Goldhill.

Hardluck Campground is accessed by an improved road and provides 24 campsites on the stream terrace above Piru Creek. The campsites on the stream terrace above Piru Creek are popular. The area has been popular with recreationists for the water play opportunities. Presently there is a seasonal access and public use Forest Closure Order in and around Hardluck Campground for preventing adverse impacts to the arroyo toad (*Bufo californicus*), an endangered species. The area also receives moderate hunting use during deer season. Hardluck Campground serves as a trailhead to access the Buck Creek area of the Sespe Wilderness. An old roadbed serves as the trail along Piru Creek to the junction of Buck Creek where Forest Trail 18W01 begins climbing along Buck Creek and on into the Wilderness where it is closed to motorized access by the general public.

Below Buck Creek, there is an opportunity to scramble along the creek through another gorge. Solitude is once again available; however, as you approach Pyramid Lake, the chance of meeting boaters on a short hike up Piru Creek increases.

Lower Piru Creek

Segment 5: Below Pyramid Lake, Piru Creek has intensive amounts of recreation use. On a typical summer weekend, several thousand users will converge on a one-mile stretch through Frenchman's Flat, mostly for picnicking and water play. There are also five dispersed campsites. Anglers try to catch rainbow trout that are stocked there as part of a catch and release program. Although the area is popular, most users tend to be from the local area (Los Angeles and Orange Counties), demonstrating that its popularity is not well known within the region or beyond. While actual use statistics are not available, an estimated 90 percent of all users of this creek are from this local area. The remaining 10 percent (in order

of importance) come from various areas within California, other states, and even other countries. Visitors are not willing to travel long distances to use the river resources for recreational purposes.

Segment 6: Piru Creek offers primitive recreation opportunities within the Sespe Wilderness. There are no trails to allow access to this segment. Due to this factor, use is fairly light, as users must rock-hop up or down the stream inside a steep, narrow canyon. The result is a high degree of solitude and self-reliance. Fishing is the main attraction to many users; others come for the natural setting and to hike.

Segment 7: Downstream from the Sespe Wilderness to Lake Piru, the corridor contains dirt roads, several parcels of private property, and Blue Point Campground. Blue Point Campground is currently closed due to wildlife concerns. The campground offered 43 units and was a popular destination due to its streamside location and proximity to Los Angeles. Due to the closure, the campground and adjacent Piru Creek are deserted except for an occasional angler or hiker trekking through to go upstream.

Determination: Above Pyramid Lake, the opportunity to recreate in and along a year-round stream is a limited opportunity in southern California and is considered to be outstandingly remarkable. The segment of Piru Creek from Halfmoon to Goldhill is unique in that it provides opportunities for off highway vehicles in and adjacent to the stream channel. The section between the Goldhill and Snowy Off Highway Vehicle Routes, especially above Castaic Mine, provides an outstanding opportunity for solitude in a very scenic gorge. The opportunity for panning and sluicing at Hardluck and Goldhill Crossings is something that is not readily available to southern Californians.

The recreation values between Pyramid Lake and Lake Piru are not considered to be outstandingly remarkable, particularly in comparison with similar recreation attributes found within Sespe Creek.

3. Geology

Description: The east-west trending Transverse Ranges include California's highest peaks south of the central Sierra Nevada and the only Precambrian rocks in the coastal mountains of the United States. The Transverse Ranges are a unique geomorphic, stratigraphic, petrologic, and structural belt 400 km long and 100 km wide that is offset by a few tens of kilometers right laterally by the northwest trending San Andreas fault system. The prominent east-west trend of the Transverse Ranges is unique among the rest of the northwest-southeast trending coastal ranges in California. It has been proposed that they have rotated significantly from their original position. Along the entire mapped length of the San Andreas Fault Zone, from northern California to Mexico, no other such diverse belt of rocks, structure, and geomorphology similar to the Transverse Range Province crosses the zone. In addition, despite their comparatively small area, the Transverse Ranges seem to incorporate a greater spectrum of rock types and structure than any other province in the state. The Transverse Ranges may be the result of compressional forces along the Big Bend in the San Andreas Fault that itself is a unique geologic feature in North America if not the world.

Upper Piru Creek

Piru Creek first flows through Tertiary sedimentary rocks (Matilija Sandstone and Juncal Formation interbedded sandstones and shales) from its headwaters to near Halfmoon Campground. From Halfmoon Campground to Buck Creek, the creek flows northeast through Precambrian basement rocks of granite and gneiss. From about the junction with Smith Fork, Tertiary sedimentary rocks form one or both sides of the creek down to Pyramid Lake. From Lockwood Flat to just west of Gold Hill, a thrust fault juxtaposes Precambrian rocks (gneiss and augen gneiss) over Tertiary rocks (Hungry Valley Formation – terrestrial sandstones) on the north side of the creek. From Smith Fork to Buck Creek, Piru Creek is aligned with the San Gabriel Fault. As Upper Piru Creek passes through alternately erosive and resistant rock types, the result is a distinct variation in landforms ranging from broad alluvial sub-basins to rugged gorges with steep rock cliffs and exposures. This variation adds to the scenic quality and geologic interest. Piru Creek Gorge cuts through a unique outcropping of the "Violin Breccia," a geologically significant recreational-educational resource.

Following is an excerpt from the environmental Impact Survey Report for the Piru Creek Project, a study in 1972 evaluating a proposed new dam in Piru Creek, one mile above Pyramid Reservoir:

“Perhaps one of the most critical considerations regarding the geology of the gorge is its uniqueness. The Violin Breccia has a stratigraphic thickness of 27,000 feet. The entire stratigraphic thickness of the Ridge Basin group, of which the Violin Breccia is a unit, is about 33,000 feet, one of the thickest known sections of upper Miocene and Pliocene rocks in the world” (Crowell 1953). The Violin Breccia represents a short steep alluvial fan deposit of incredible thickness, accumulated at the toe of the rising San Gabriel Fault Block.

“There is no other formation in the western United States exhibiting this extreme thickness, yet covering such a small area. The exposure in the Piru Gorge is even more unique in providing a section, as it were, right through the center of the formation. Add to this the interesting arch formation, and springline, plus the overall scenic effect, and here is an area rivaling many National Parks and monuments in both uniqueness and beauty...it is the features of this gorge which provide much of the recreational value here...” (Crowell 1953). Also unique is the anomalous course of upper Piru Creek which flows southeast across many structural trends and against the predominant northwest dip of the rocks.

Piru Creek is an historic mining district and was a popular location in southern California for panning sluicing, and dredging for gold. The creek is closed to dredging by the California Department of Fish and Game. The Castaic Mine is a patented mining claim that was developed for gold. Placer mining along Piru Creek began in 1841 by Andrew Castellero and gold from the district was shipped to the U.S. Mint in Philadelphia in 1842. Small-scale placer mining continued intermittently through the 1880's and there was some work again in the 1920's and 1930's. Among lode gold mines, the principal operation was the Castaic mine, which had an estimated output valued at \$160,000. The placer deposits are in and adjacent to the upper part of Piru Creek, chiefly in the vicinity of its junction with Lockwood Creek and to the east of Gold Hill. Based on the amount of exploration, which has taken place in the area over the last 150 years, and recent assessments of gold potential; it is not likely that an economic mining operation could be conducted on Piru Creek, although there is still interest in panning and sluicing from a recreational standpoint.

Lower Piru Creek

Piru Creek, below Pyramid Reservoir, flows through scenic tilted layers of sedimentary rocks of the Ridge Basin Group, an inter-montane basin exposing the interrelationships of tectonics and sedimentation, and often the subject of geology field trips by academic and casual interest groups. It then turns back to the west and crosses the San Gabriel Fault zone into Precambrian gneiss (metamorphic) and Mesozoic to Precambrian granitic (igneous) and gneissic rocks, then turns south and crosses the Pine Mountain Fault into a thick sequence of Tertiary marine and non-marine sedimentary rocks. Piru Creek winds its way through tight bends in 1500 to 2000 foot deep canyons, displaying active debris slides on canyon walls and deep pools and carved granitic boulders in its upper reaches. In the lower half, the creek cuts gentler curves in shales, sandstones and conglomerates, and exhibits broadly folded and steeply dipping (some overturned) sedimentary rock types, fault contacts, and numerous massive old landslides near the creek and up side canyons. The most spectacular is a bedding plane landslide up Agua Blanca Creek at Devils Potrero, covering almost a square mile, which blocked a drainage to form the closed basin called The Pothole, just above the scenic Devil's Gateway. Fossils are common in some of the marine sedimentary rocks.

The San Gabriel and other nearby faults are interpreted by Dr. John C. Crowell, Professor Emeritus of the University of California, as strands of the San Andreas Fault system within this splintery boundary region between two giant tectonic plates, the North American Plate to the northeast and the Pacific Plate to the west. Where the San Gabriel Fault crosses lower Piru Creek, it separates 4 to 5 million year old (young) terrestrial sedimentary rocks from +/- 600 million year old Precambrian metamorphosed gneiss, exposing a dramatic change in rock type and geomorphic form. Further downstream, Piru Creek flows through

progressively younger igneous and sedimentary rocks that have been carved into spectacular gorges and exposures.

Some of the first gold discovered in California, as well as oil and gas developments, occurred in tributaries of the lower reaches of Piru Creek. Some of the Miocene age strata along the lower portion of Piru Creek are productive in oil fields to the south. Granitic rock from Whitaker Peak provides much of the gravel and boulders in Piru Creek.

Determination:

Upper Piru Creek

The basement rocks that outcrop along Piru Creek from Halfmoon Campground to Buck Creek are considered to be outstandingly remarkable. These rocks are banded gneisses and migmatites. Geologically these rocks are important because exposures of basement rocks provide important clues to this less well-understood portion of North America's tectonic history.

The sedimentary rocks of the Ridge Basin group, which outcrop from Smith Fork to Pyramid Lake, are considered to be outstandingly remarkable. Along Piru Creek, both Peace Valley and Hungry Valley formations outcrop in low cliffs. These rocks include conglomerates with cobbles of the basement rocks and are important to the study of the development of the Ridge Basin that coincided with movement on the San Gabriel Fault. These rocks provide critical information about the tectonic history of the unique Transverse Ranges.

The San Gabriel Fault is one of several important structural features in southern California. From Smith Fork to Buck Creek, it follows Piru Creek and splinters into two sections that form a sliver of Tertiary rocks. This feature may provide important information regarding the history of movement along this fault and is considered to be outstandingly remarkable.

Lower Piru Creek

The basement rocks that outcrop in the upper portion of Lower Piru Creek are considered to be outstandingly remarkable. These rocks are gneisses and migmatites that are banded and form scenic outcrops and boulders along and in the creek. Geologically these rocks are important because exposures of basement rocks provide important clues to this less well-understood portion of North America's tectonic history.

The sedimentary rocks found in lower Piru Creek display a thick sequence of sedimentary rocks covering a long span of the Tertiary Period, from the Eocene through the Holocene Epochs. These rocks include both marine and terrestrial sediments and are important to the study of the development of the Ridge Basin that coincided with movement on the San Gabriel Fault. These rocks provide critical information about the movement history of the unique Transverse Ranges and are considered to be outstandingly remarkable.

The active San Gabriel Fault is one of several important structural features greatly influencing the geologic exposures and geomorphic landforms in southern California and is considered to be outstandingly remarkable.

4. Fish and Wildlife

Description:

Upper Piru Creek

Piru Creek has current, historic, and potential populations of threatened, endangered and sensitive species in the riparian corridor from Fish Bowl Campground to Pyramid Lake. Wildlife observations in the watershed of Upper Piru Creek include three federally endangered species: arroyo toad (*Bufo californicus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and California condor

(*Gymnogyps californianus*). Forest Service Region 5 sensitive species were also observed: Northern goshawk (*Accipiter gentilis*), California spotted owl (*Strix occidentalis occidentalis*), willow flycatcher (*Empidonax traillii*), and southern Pacific pond turtle (*Actinemys marmorata pallida*).

Piru Creek has about 4.5 miles of critical habitat for arroyo toads in those sections that are below 3600 feet in elevation.

The southwestern form of willow flycatcher is a federally endangered subspecies, the northern subspecies of willow flycatcher is considered a Forest Service sensitive and a California endangered species. Critical habitat for southwestern willow flycatcher was designated in 1997; however, pending settlement of a lawsuit, the designation may be revoked during 2002. Suitable habitat was documented in Upper Piru Creek. In 2001, occupancy surveys in Upper Piru noted three southwestern willow flycatchers during the breeding season and two presumed migratory northern willow flycatchers.

Upper Piru Creek is within the Critical Habitat boundaries for California condor. Historic nest sites are located near Hardluck Campground.

Northern goshawks were observed nesting in 2000 and were also observed in 2001 in the vicinity of Half Moon Campground. Surveyors found California spotted owls in Piru Creek and Buck Creek. In general, surveyors found spotted owls in riparian zones within mixed-conifer forests. The two-striped garter snake and southern Pacific pond turtle have been observed along upper Piru Creek and Lockwood Creek where they are considered somewhat common.

The low water crossing near Hardluck Campground has recently been improved; however, since its initial construction the crossing has acted as a barrier to upstream movement of exotic fish such as brown trout, green sunfish and small-mouth bass. These exotics can be quite predatory or otherwise detrimental to native aquatic and semi-aquatic wildlife, especially fish and amphibians. The native amphibian fauna above the crossing include California and pacific chorus frogs and western and arroyo toads. The latter is a federally endangered species. As such, that section of Piru Creek above Hardluck Crossing can be considered a refugium for native aquatic and semi-aquatic wildlife species.

Lower Piru Creek

Lower Piru Creek contains suitable habitat for several designated threatened, endangered, and sensitive wildlife species. Wildlife observations in the watershed of lower Piru Creek include the federally threatened California red-legged frog, *Rana aurora draytonji*, and three federally endangered species: arroyo toad, *Bufo californicus*; least Bell's vireo, *Vireo bellii pusillus*; and California condor, *Gymnogyps californianus*. Also, Forest Service sensitive species were also observed: two striped garter snake, *Thamnophis hamondii*, and southern Pacific pond turtle, *Actinemys marmorata pallida*. Native fish species such as the rainbow trout and the arroyo chub also inhabit the Lower Piru.

Piru Gorge is relatively narrow with steep canyon walls bordering either side of the creek. The narrow riparian habitat corridor consists mostly of scattered stands of valley oak and sycamore with thickets of arroyo willow and mulefat bordering the stream margins.

Pyramid Dam has modified lower Piru Creek itself and consequential water releases from Pyramid to Lake Piru. The natural dynamics of stream flow and sediment transport within the channel have been modified significantly. Natural stream flows that historically dried out in late summer have been replaced by a year-round artificial flow created by water releases from Pyramid. Not only have the water releases sustained a year-round flow, but have also introduced several nonnative species from the state water project to the detriment of native species. Nonnative species include but are not limited to bullfrog, small and large-mouth bass, black bullhead and green sunfish.

Remnant populations of arroyo toad occur in lower Piru Creek. Cattle grazing on private lands, recreation, and the introduction of exotic fish and bullfrogs from Lake Piru and Lake Pyramid are currently affecting these populations. The populations of arroyo toad have declined since the mid-1990s. Most of the arroyo

toad observations have been in the lower half of the drainage. Most of the impacts to toads occur on the lower three miles of stream.

Lower Piru Creek contains critical habitat for the federally endangered California condor including several historic roost and nest sites. Least Bell's vireo habitat exists within the drainage. Potential habitat is found for the peregrine falcon, *Falco peregrinus anatum* (Forest Service sensitive).

Recent surveys suggest the California red-legged frog has been extirpated from the main stem of Piru Creek.

Determination: The segment above Hardluck Crossing is unique in that it acts as a refugium for native California amphibians and other native aquatic and semi-aquatic species that may occur. This assemblage of native species includes the endangered arroyo toad as well as several Forest Service sensitive species. This attribute can be considered an outstanding and remarkable value of the segment, especially since other such areas are extremely rare on the Forest and in southern California in general.

The population of arroyo toads in the Blue Point area and potential habitat areas for least Bell's vireo and southwestern willow flycatcher near Lake Piru are not considered to be outstandingly remarkable amongst other drainages with similar habitat and species components, particularly with those in other eligible Wild and Scenic Rivers (upper Piru Creek, Sespe, Indian, and Mono).

5. Heritage resources (Cultural)

Description: Sizeable portions of the Piru Creek corridor have been surveyed for heritage resources. As such, the knowledge of the span and complexity of Native American use of the corridor is good with many sites known. The Native American sites recorded represent occupation sites and activity areas that have the potential to contribute information regarding such topics as manufacturing techniques, diet, and trade documenting contact between the inhabitants of the corridor and other groups as well as the everyday life of the Native American inhabitants of the corridor. Sites in the area attest to the use of the area by the Chumash. What is unique is the abundance of time-sensitive artifacts that offer information on the land-use patterns and how they evolved over time. The abundance of such material in the Upper Piru Creek segments (Segments 1-4) is unique and as such, has the potential for national or regional importance for interpreting prehistory. The sites and features recorded within the lower corridor segments (Segments 5-7) are common in the local area and region, and as such, they are not rare or unique or have national or regional importance for interpreting prehistory.

Determination: Cultural values are considered to be outstandingly remarkable for Segments 1-4 but are not considered outstandingly remarkable for Segments 5-7.

6. Heritage resources (Historic)

Description: Portions of the Piru Creek corridor have been surveyed for heritage resources. The knowledge of the span and complexity of historic use of the corridor is good and many sites are known to be located within the corridor. There are multiple known resources that are associated with mining activities, which addressed together as a whole, would probably merit significance at the local level. Without further research, the sites identified are not rare, unique or noteworthy enough to have significance beyond the local level.

Determination: Historic values are not considered to be outstandingly remarkable.

7. Other (Botany)

Description: The botanical resources of Piru Creek are fairly well known due to the creek's proximity to roads and trails and the inclusion of the study corridor in other project analyses; however, no systematic effort has been made to inventory the botanical resources found in the study corridor. There are no known occurrences of endangered, threatened, proposed, candidate, or sensitive plant species within one-quarter

mile of Piru Creek. There are a number of occurrences of sensitive plant species in the Piru Creek watershed but these populations all occur more than one-half mile from the creek.

Determination: Botanical values are not considered to be outstandingly remarkable.

Summary of Outstandingly Remarkable Values:

Recreation

The upper portion of Piru Creek provides an outstandingly remarkable opportunity to recreate in and along a year-round stream.

Geology

The faults, folds and rock formations along Piru Creek include important features crucial to the understanding of the very complex structural and geomorphic evolution of the west coast of North America. Along both the upper and lower portions of Piru Creek, exposures of the oldest basement rocks in the coastal mountains of the western U.S, composed of gneisses and migmatites, as well as sedimentary rocks of the Ridge Basin Group, and structural features of the San Gabriel Fault are considered to be outstandingly remarkable.

Wildlife

In the upper portion of Piru Creek, the protected aquatic habitats above the Hardluck Crossing and the population of arroyo toads at Hardluck Crossing are considered to be outstandingly remarkable.

Cultural

The scientific and interpretive values offered by several of the prehistoric/ethnographic sites constitute outstandingly remarkable values in the upper segments of Piru Creek.

Potential Classification

Table 441. Piru Creek - Potential Classification by River Segment

	Segment 1	Segment 2	Segment 3	Segment 4
WILD RIVER				
Free of impoundments	Yes	Yes	Yes	Yes
Generally inaccessible except by trail	Yes	No	Yes	No
Watersheds or shorelines essentially primitive	Yes	No	Yes	No
Waters unpolluted	Yes	Yes	Yes	Yes
SCENIC RIVER				
Free of impoundments		Yes		Yes
Accessible in places by roads		Yes		Yes
Watershed largely primitive and undeveloped		Yes		Yes
RECREATIONAL RIVER				
Some impoundments or diversions in past				
Readily accessible by road or railroad				
Some development along shoreline				
Eligibility Status	Wild	Scenic	Wild	Scenic

Suitability Report

Segments 1-4 are studied in the following suitability report. Study of segment 5 on the Angeles NF and 6 and 7 on the Los Padres NF is deferred. Until such time as the suitability studies are completed, eligible

segments will be managed to protect their outstandingly remarkable values and potential classification (see Angeles and Los Padres Land Management Plans).

Description

Landownership and Land Uses

Segment 1: Piru Creek is considered to be free flowing below a point in the Sespe Wilderness in the southwest corner of T6N, R22W, Sec 3. Segment 1 includes the main stem from its source within the Sespe Wilderness to the wilderness boundary along the eastern edge of T7N, R21W, Sec 31.

Segment 2: From the Sespe Wilderness boundary to one-quarter mile below Gold Hill crossing (T7N, R19W, Sec 18).

Segment 3: From one-quarter mile below Gold Hill crossing downstream to the Castaic Mine located on private land in T7N, R19W, Sec 22.

Segment 4: Downstream from Castaic Mine to the maximum pool of Pyramid Lake.

River mile location is from the source (see table 448: Piru Creek - Segment Description).

Table 448. Piru Creek - Segment Description

River Segment	Miles	Boundaries	Ownership	Zoning/Land Use
1	0 - 5.8	Headwaters to Sespe Wilderness Area boundary	NFS (1622 acres)	Wilderness
2	5.8 - 26.2	Sespe Wilderness Area boundary to ¼ mile below Gold Hill crossing	NFS (5432 acres) and non-federal (275 acres)	NFS: motorized and non-motorized recreation, grazing. Non-federal: rural/agriculture.
3	26.2 - 30.9	¼ mile below Gold Hill crossing to/including Castaic Mine	NFS (1259 acres) and non-federal (169 acres)	NFS: watershed improvement, dispersed recreation. Non-federal: inactive mining claim.
4	30.9 - 38.5	Castaic Mine to maximum pool of Pyramid Lake	NFS (2054 acres) and non-federal (169 acres)	Watershed improvement, dispersed recreation.

Mineral and Energy Resource Activities

Piru Creek is an historic mining district and was a popular location in southern California for panning sluicing, and dredging for gold. The creek is closed to dredging by the California Department of Fish and Game. The Castaic Mine is a patented mining claim that was developed for gold. Placer mining along Piru Creek began in 1841 by Andrew Castillero and gold from the district was shipped to the U.S. Mint in Philadelphia in 1842. Small-scale placer mining continued intermittently through the 1880's and there was some work again in the 1920's and 1930's. Among lode gold mines, the principal operation was the Castaic mine, which had an estimated output valued at \$160,000. The placer deposits are in and adjacent to the upper part of Piru Creek, chiefly in the vicinity of its junction with Lockwood Creek and to the east of Gold Hill. Based on the amount of exploration, which has taken place in the area over the last 150 years, and recent assessments of gold potential; it is not likely that an economic mining operation could be conducted on Piru Creek, although there is still interest in panning and sluicing. Entire length of upper Piru Creek should be withdrawn from mineral entry due to threatened and endangered species and heritage resource concerns. It is unlikely that the Castaic Mine will have future operations due to threatened and endangered species concerns.

Water Resources Development

A dam at Pyramid Lake operated by the California Department of Water Resources impounds Piru Creek. The California Department of Water Resources rejected a proposal for construction of another dam in segment 4 on upper Piru Creek based on an Environmental Impact Report in 1972. Portions of segments 2, 3, and 4 and located within a former power withdrawal identified as Federal Power Commission Order for Power Project 64 on August 24, 1921. Most of the power withdrawal was rescinded in 1986. None of the upper Piru Creek is presently within a power withdrawal. Future water resource development is unlikely due to threatened and endangered species concerns.

Transportation, Facilities and Other Developments

Segment 1 contains several small campgrounds (1 to 4 units) as well as the opportunity for general forest camping are available. There are opportunities for solitude along the stream; however, spring and early summer weekends often find popular areas such as the Fishbowls mildly congested with users who have come to fish or just soak in the pools.

Segment 2, between Fishbowls Trailhead and Halfmoon Campground, has a graded dirt road paralleling and crossing the creek with the road rarely being more than 200 yards distant. Between Halfmoon and Goldhill Campgrounds, the stream corridor is utilized primarily by off highway vehicle users along the Piru Off Highway Vehicle Route. The first three miles downstream from Halfmoon Campground are open to motorized vehicles. From that point downstream, the route is open only to motorcycles. An improved road accesses the area and crosses Piru Creek as it continues on to Alamo Mountain.

In segment 3 between Goldhill and Snowy Off Highway Vehicle Routes, access for the general public is only available by scrambling cross-country or often down the stream itself. The private landowner has a four-wheel drive access road to the Castaic Mine, which is in this section of the creek.

In segment 4, the Snowy Off Highway Vehicle Route accesses Piru Creek; the route is well known throughout the southern California off highway vehicle community. Hardluck Campground is accessed by an improved road and provides 24 campsites on the stream terrace above Piru Creek. Hardluck Campground serves as a trailhead to access the Buck Creek area of the Sespe Wilderness. An old roadbed serves as the trail along Piru Creek to the junction of Buck Creek where Forest Trail 18W01 begins climbing along Buck Creek and on into the Wilderness where it is closed to motorized access by the general public.

Recreation Activities

The upper portion of Piru Creek above Pyramid Lake offers visitors from southern California a chance to recreate in and around a stream corridor with year-round flows. Visitors are allowed access into a variety of settings including steep canyon walls as well as open stretches with panoramic views of the creek and surrounding countryside. Access varies from hiking and horseback to off highway vehicle routes and forest development roads. There are a variety of camping opportunities along the stream channel.

The headwaters of Piru Creek lie within the Sespe Wilderness. Within segment 1, there exists the opportunity for hiking and horseback riding along trails, which parallel and cross portions of both the main stem and the South Fork of Piru Creek.

Segment 2 sees moderate to heavy use from users driving for pleasure or using the road to link off highway vehicle routes in the area. This portion is popular with woodcutters in the summer and fall and with hunters during the fall deer season. Between Halfmoon and Goldhill Campgrounds, most of the use is day use; however, some users take the opportunity to camp along this section. This area also sees some hunters during the deer season. The off highway vehicle route along the stream corridor provides an unusual experience for users since portions of the route are within the stream channel. This provides a challenging and different experience that is not readily available in southern California. The Goldhill area is a popular camping area and day use destination. In addition to camping, many visitors use Goldhill as

a staging area for off highway vehicle rides on routes in the surrounding area and use the opportunity to soak in the creek.

In segment 3, the hunter, angler, or adventurous hiker can find solitude within a landscape showing little evidence of human presence.

The junction of Snowy Off Highway Vehicle Route and Piru Creek provides motorcyclists an opportunity to cool down either before or after they have traversed one of the more difficult motorcycle routes on the Mount Pinos District. This challenging route is well known throughout the southern California off highway vehicle community.

Between Snowy Crossing and Hardluck Campground, access is once again limited to the hiker scrambling down the stream channel. The opportunities for solitude exist; however, this section lacks the spectacular scenery of the gorge below Goldhill.

Hardluck Campground has been popular with recreationists for the campsites on the stream terrace above Piru Creek and water play opportunities. Presently there is a seasonal access and public use Forest Closure Order in and around Hardluck Campground for preventing adverse impacts to the arroyo toad (*Bufo californicus*), an endangered species. The area also receives moderate hunting use during deer season.

Below Buck Creek, there is an opportunity to scramble along the creek through another gorge. Solitude is once again available; however, as you approach Pyramid Lake, the chance of meeting boaters on a short hike up Piru Creek increases.

Other Resource Activities

Dead and down fuel wood harvesting occurs with possibilities of forest health thinnings to support other resource values in segment 2. One grazing allotment exists in segments 1 and 2, from the headwaters to about 20 miles downstream. Active and planned prescribed burns are adjacent to segments 2 and 3 on Alamo Mountain. Threatened and endangered species (arroyo toad and southwestern willow flycatcher) monitoring occurs in all segments.

Special Designations

Segment 1 occurs within the Sespe Wilderness from the headwaters to about five miles downstream. Piru Creek has been designated a Wild Trout Stream by the California Department of Fish and Game. These designations are complimentary to, and do not conflict with, inclusion of upper Piru Creek into the Wild and Scenic River System.

Socio-Economic Environment

The mountain communities in the Frazier Park area (approximately 10,000) are the closest population centers to Piru Creek. Much of the recreational use comes from the population centers of Los Angeles, Ventura and Kern Counties. Approximately 25 miles away from segments 3 and 4, Tejon Ranch has proposed a 23,000 home community to be called Centennial. Planned development is to start in three to five years. Designation as a Wild and Scenic River would have minimal impact on use patterns, except potentially to encourage use from more geographically distant visitors.

The Los Padres National Forest administers all of Piru Creek except the few private parcels listed above. The private land is within Ventura County.

Current Administration and Funding Needs if Designated

	Expenses Independent of Designation	Additional Expenses with Designation
General Administration*	\$60,000	\$33,000
Development of River Management Plan	\$0	\$150,000
Development Costs	\$750,000	\$10,000
Operation and Maintenance Costs	\$100,000	\$5,000
Total Cost First Five Years	\$910,000	\$198,000

* General administration and operation and maintenance costs are estimated to continue at \$ 20,000 annually.

Suitability Factor Assessment:

1. Characteristics that do or do not make the area a worthy addition to the National System.

Worthy: The recreational, heritage, wildlife and geological characteristics make it a worthy addition for all segments. Piru Creek offers year round streamside recreation in an area where few streams exist adjacent to large populations. The creek offers scientific and interpretive values for historic and prehistoric/ethnographic sites. Two endangered species are located along the creek. Along the upper portions of Piru Creek, exposures of the oldest basement rocks in the coastal mountains along with structural features of the San Gabriel fault, offer an outstanding scientific and interpretive resource.

Unworthy: Due to low water flows, opportunities for boating/floating activities such as rafting and kayaking do not exist.

2. The current status of land ownership and use in the area.

The private parcel in segment 2 is used to support livestock grazing operations. The Castaic Mine (approximately 58 acres at the break between segments 3 and 4) is inactive with no plans of mining at this time. The owner of the mine has expressed an interest in a land exchange with the National Forest. The rest of the land is in the National Forest System.

3. The reasonable foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the System.

If the corridor were permanently withdrawn from mineral entry, a reduction in small-scale placer mining operations would occur. This would reduce the negative effects of mining on threatened and endangered species, heritage resources, and watershed impacts. The mineral report from 1994 concluded that an economic mining operation could not be conducted on upper Piru Creek. Other uses would remain about the same if above segments are adopted.

4. The federal agency that will administer the area, should it be added to the System.

USDA Forest Service.

5. The extent to which the agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.

No proposals exist to share costs with State or local agencies.

6. The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the system.

No acquisitions are necessary at this time. The owner of the Castaic mine has expressed an interest in a land exchange with the Forest Service. The owner of the 160-acre private parcel has not to date express any interest in a land exchange. Both parcels are habitat to endangered species.

7. A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river, should it be proposed for inclusion in the System.

The California Department of Fish and Game will continue to enforce restrictions on dredging.

8. State and/or Local government's ability to manage and protect the outstandingly remarkable values on non-federal lands.

State and local governments will be responsible for regulation and enforcement of threatened and endangered species protection.

9. Support or opposition to designation.

Opposition from mining, off highway vehicle, and other use groups is anticipated. Support is expected from environmental groups.

10. Potential for water resources development.

The California Department of Water Resources rejected a proposal for construction of another dam in segment 4 on upper Piru Creek based on an Environmental Impact Report in 1972. Portions of segments 2, 3 and 4 and located within a former power withdrawal identified as Federal Power Commission Order for Power Project 64 on August 24, 1921. Most of the power withdrawal was rescinded in 1986. None of the upper Piru Creek is presently within a power withdrawal.

11. Contribution to other regional objectives/needs.

Protection of endangered species habitat would help meet objectives of the U.S. Fish and Wildlife Service, California Department of Fish and Game, and the USDA Forest Service.

Forest Plan Alternatives

Briefly describe how a particular river was treated in each of the Forest Plan alternatives:

Alternative 1: No segments are recommended for designation.

Alternative 2: Segments 1 and 3 are recommended for wild river designations. Segments 2 and 4 are recommended for scenic river designations. A wild designation in segment 1 is consistent with the existing wilderness. There are no roads or other improvements in segment 3; a wild designation would maintain the primitive character of this segment. Segments 2 and 4 encompass improved dirt roads and motorized trails. Scenic designations would allow for the continued use and maintenance of these routes balanced with the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable values.

Alternative 3: Wildlife is identified as an ORV all segments. Segments 1 and 3 are recommended for wild river designations. Segments 2 and 4 are recommended for scenic river designations. A wild designation in segment 1 is consistent with the existing wilderness. There are no roads or other improvements in segment 3; a wild designation would maintain the primitive character of this segment. Segments 2 and 4 encompass improved dirt roads and motorized trails. Scenic designations would allow for the continued use and maintenance of these routes. The recommended designations balance the need to protect and enhance the free-flowing character, water quality and outstandingly remarkable recreation, wildlife, geology and cultural values with the conservation of a wide range of wildlife and plant species (especially TES) and habitats, biodiversity, linkages and corridors.

Alternative 4: Recreation is identified as an ORV in all segments. Segments 1 and 3 are recommended for wild river designations. Segments 2 and 4 are recommended for scenic river designations. A wild designation in segment 1 is consistent with the existing wilderness. There are no roads or other improvements in segment 3; a wild designation would maintain the primitive character of this segment. Segments 2 and 4 encompass improved dirt roads and motorized trails. Scenic designations would allow for the continued use and maintenance of these routes.

Alternative 4a: Same as alternative 4.

Alternative 5: No segments are recommended for designation.

Alternative 6: Segments 1 and 3 are recommended for wild river designations. Segments 2 and 4 are recommended for scenic river designations. A wild designation in segment 1 is consistent with the existing wilderness. There are no roads or other improvements in segment 3; a wild designation would maintain the primitive character of this segment. Segments 2 and 4 encompass improved dirt roads and motorized trails. Scenic designations would allow for the continued use and maintenance of these routes. The recommended designations would protect and enhance a wide range of values and features, including species conservation, biodiversity, open space, natural beauty, recreation and research.

Suitability Determination for the Selected Alternative

Describe the rationale for the suitability determination of the selected alternative 4a:

Because of the outstanding and remarkable values Upper Piru Creek offers southern California, inclusion into the Wild and Scenic River System is recommended. Segments 1 and 3 are recommended for wild river and segment 2 and 4 for scenic river designations. In addition, all scenic river segments should be withdrawn from mineral entry to protect the habitat for threatened and endangered species and heritage resource values.

San Antonio River

Study Area Summary

The San Antonio River was considered for study based on input from Los Padres National Forest personnel.

Name of River: San Antonio River

Location: State of California, Monterey County, Los Padres National Forest

The San Antonio River is considered to be free flowing below a point in the Ventana Wilderness along the east flank of the Santa Lucia Range approximately two miles southeast of Cone Peak in the southern one-half of T21S, R4E, Sec 35, MDBM. The study segment of the San Antonio River flows in an easterly direction to the administrative boundary of the Los Padres National Forest (eastern edge of T21S, R5E, Sec 35, MDBM), a distance of approximately eight miles. The first 3.5 miles lie within the Ventana Wilderness. A private inholding exists immediately north of the river, east of and contiguous to the wilderness boundary. For the purposes of this study, the San Antonio River was divided into two segments.

Segment 1: Includes the headwaters of the main stem of the San Antonio River from its headwaters to the Ventana Wilderness boundary located in the southwestern one-quarter of T21S, R5E, Sec 35. The potential wild and scenic river corridor may encompass a portion of the private parcel located in T21S, R5E, Sec 33.

Segment 2: The main stem of the San Antonio River from the Ventana Wilderness boundary (southwestern one-quarter of T21S, R5E, Sec 35) to the administrative boundary of the Los Padres National Forest (eastern edge of T21S, R5E, Sec 35).

River Mileage:

River Segment	Miles Studied	Miles Eligible
1	7.6	7.6
2	1.0	1.0

Studied: 8.6 miles

Eligible: 8.6 miles

Eligibility Inventory

Free-flow Determination:

The river is free flowing in segment 1. Adjacent to a barn at the Merle Ranch, segment 2 has a river impoundment that has not been used for 10 years. The structure consists of a concrete foundation with slats to seasonally impound the river. A small water supply diversion exists approximately one mile upstream from the main structures at the Merle Ranch. A 1.5” pipe from this diversion parallels the river for approximately one mile. The San Antonio River is determined to be free flowing.

Determination of Outstandingly Remarkable Values (ORVs):

1. Scenery

Description: Seasonal variations in riparian vegetation consisting of alder, sycamore, and various species of willow and oak are not unique in regards to other riparian areas on the district.

Determination: Scenic values are not considered to be outstandingly remarkable.

2. Recreation

Description: The upper portions of the river within segment 1 lie within the Ventana Wilderness. The San Antonio Trail parallels the river throughout this segment, providing access to Fresno and San Antonio Camps. In recent years, public access from the eastern end of the San Antonio Trail has been denied from a private landowner. The Merle Ranch area is closed to public entry, limiting access to segment 2 and the eastern portion of segment 1. Segments 1 and 2 provide good fishing opportunities. The San Antonio River is one of the few streams open to fishing on the district.

Determination: Recreational values are not considered to be outstandingly remarkable.

3. Geology

Description: The Monterey District of the Los Padres National Forest is in the southern Coast Ranges of California. This is a geologically young mountain range that was uplifted to its present height about 400,000 years ago. The range includes Mesozoic age rocks that represent a subduction zone complex (the Franciscan Complex), a magmatic arc (plutonic and metamorphic rocks of the Salinian Block) and forearc basin sediments (the Great Valley Sequence). It also includes younger Tertiary marine sediments and Quaternary largely non-marine sediments. The majority of the Monterey District is part of the Salinian Block. The Arroyo Seco, Carmel, Little Sur and San Antonio Rivers, and Tassajara Creek primarily flow through the basement rocks of this block.

The San Antonio River is structurally controlled by a linear system of folds and faults. It first flows southeast through metasedimentary rocks parallel to and sometimes within bands of marble. This course also parallels a nearby fault separating the basement metasedimentary rocks from Cretaceous marine sediments. The river bends to the northeast where it crosses the fault and then flows mostly through folded Cretaceous and Tertiary marine sediments to the Forest boundary.

Determination: The Salinian Block metasedimentary and plutonic rocks exposed by the San Antonio River are not considered to be outstandingly remarkable in comparison with similar features located elsewhere in this geologic province.

4. Fish and Wildlife

Description: The upper reaches of San Antonio Creek are relatively unaffected by human use, and contain excellent riparian habitat. Some trout inhabit this branch of San Antonio Creek, but a large population of introduced Sacramento squawfish and sucker compete with trout here. The San Antonio reservoir blocks passage of steelhead from the Salinas drainage into all of San Antonio Creek.

The arroyo toad (*Bufo californicus*), a federally endangered species, exists on Fort Hunter Liggett downstream of the study river area.

A pair of California spotted owls (*Strix occidentalis occidentalis*), a Forest Service sensitive species, was found in 1990 on the main fork of San Antonio Creek near Fresno Camp.

Introduced bullfrogs are common within this drainage, and may be keeping the California red-legged frog out of the drainage. Southern Pacific pond turtles are found within the San Antonio drainage.

Determination: Although the above mentioned species are outstanding according to their definition as threatened, endangered, or sensitive, the habitat and wildlife resources within the San Antonio River drainage are not considered to be outstandingly remarkable amongst other drainages with similar habitat and species components.

5. Heritage resources (Cultural)

Description: Portions of the stream corridor between the Fresno Campground and Salsipuedes Creek have been inventoried, as have portions of the area near Merle Ranch; between these two areas is a substantial gap. Still, numerous sites are known. In particular, the area on or near Merle Ranch has an unusually dense concentration of widely varied sites, possibly including rock art, and certainly including both historic and prehistoric sites, with the latter probably spanning several thousand years. Some of these sites are not yet fully documented.

Determination: The density and variety of the sites in the Merle Ranch area, and the time span—probably encompassing thousands of years—that they collectively represent, taken with the prehistoric and historic interpretive potential of Merle Ranch and/or other local areas, constitute an outstandingly remarkable value.

6. Heritage resources (Historic)

Description: Outside of, but relevant to, the stream corridor are additional sites, some of which possess unique qualities. One example is the Indians Ranch. This site is an exceptional representation of how Native peoples departing from the missions adapted mission practices (including viticulture) to a post-mission way of life. Ethnographically speaking, much of the recorded information on the Salinan tribe came from Perfecta Encinales, one of the original occupants of the Indians Ranch. Wagon Cave, a large cave where wagons are thought to have been stored (at least one extant historic letter reports wagon parts in the cave) as their occupants traveled to and from the coast. Wagon Cave, and potentially many of the other sites in the Merle Ranch area, are directly linked to the San Antonio drainage because the drainage served as part of the travel route connecting the local area to the coast and hence the wider world.

The general area has high interpretive potential. An interest in area cultural tourism already exists, as demonstrated by the historic San Antonio Mission; it and “The Hacienda” (part of the former Hearst Ranch), both approximately eight miles from the Merle Ranch, attract international visitors. The Merle Ranch itself is potentially an important interpretive location; the density and variety of sites found in its vicinity and the condition of the standing buildings make it in some ways ideal for such a purpose. However, one should note that several of the site types found in the area are very sensitive to use and

could easily be “loved to death” by too many visitors; also, tribal concerns exist for the area in general. If the ranch itself is not deemed suitable as an interpretive location, other areas within or adjacent to the corridor provide alternatives.

Determination: The density and variety of the sites in the Merle Ranch area, and the time span—probably encompassing thousands of years--that they collectively represent, taken with the prehistoric and historic interpretive potential of Merle Ranch and/or other local areas, constitute an outstandingly remarkable value

7. Other (Botany)

Description: Riparian vegetation consists of alder, sycamore, and various species of willow and oak. There is one rare plant occurrence within one-quarter mile of the San Antonio River.

The botanical resources of the San Antonio River watershed are not well known due to the area’s isolation and rough terrain. No systematic efforts have been made to inventory the botanical resources of San Antonio River.

Based on the literature, there are no known unique, outstanding, distinctive, or unusual botanical features or characteristics in the San Antonio River watershed. Although there is a sensitive plant occurrence within the study corridor, it is not considered to be a unique, outstanding, distinctive, or unusual botanical feature because of the small size of the population, the association of the species with upland habitat types, and the presence of larger, more vigorous populations in the adjoining watersheds.

Determination: The botanical resources are not considered outstandingly remarkable.

Summary of Outstandingly Remarkable Values:

Cultural and Historic

The density and variety of the sites in the Merle Ranch area, and the time span—probably encompassing thousands of years--that they collectively represent, taken with the prehistoric and historic interpretive potential of the site, constitute outstandingly remarkable values for both historic and prehistoric heritage resources.

Table 443. San Antonio River - Potential Classification by River Segment

	Segment 1	Segment 2	Segment 3	Segment 4
WILD RIVER				
Free of impoundments	Yes	No		
Generally inaccessible except by trail	Yes	No		
Watersheds or shorelines essentially primitive	Yes	No		
Waters unpolluted	Yes	Yes		
SCENIC RIVER				
Free of impoundments		No		
Accessible in places by roads		Yes		
Watershed largely primitive and undeveloped		Yes		
RECREATIONAL RIVER				
Some impoundments or diversions in past		Yes		
Readily accessible by road or railroad		Yes		
Some development along shoreline		Yes		
Eligibility Status	Wild	Scenic		

Potential Classification

See table 443: San Antonio River - Potential Classification by River Segment.

Suitability Report

Description

Landownership and Land Uses

Segment 1: Segment 1 is within the Ventana Wilderness. A portion (about 45 acres) of the 120-acre private parcel in Section 33 falls within the study corridor.

Segment 2: Segment 2 includes the Merle Ranch, an acquired property. The northern one-half of the study corridor is in the Ventana Wilderness. The Merle Ranch is currently used as an administrative pasture. Improvements include two small cabins, outbuildings, and a small impoundment. The area is closed to the public.

River mile location is from the source (see table 449: San Antonio River - Segment Description).

Table 449. San Antonio River - Segment Description

River Segment	Miles	Boundaries	Ownership	Zoning/Land Use
1	0 - 7.6	Headwaters North Fork to Wilderness Boundary	NFS (2288 acres) and non-federal (45 acres)	Wilderness
2	7.6 - 8.6	Wilderness boundary to Forest boundary	NFS (270 acres)	NFS: Wilderness and acquired property, closed to the public

Mineral and Energy Resource Activities

There are no known deposits of locatable or leasable minerals within the study corridor.

Water Resources Development

The river is free flowing in segment 1. In segment 2 there is a run of the river impoundment at the Merle Ranch. The structure consists of a concrete foundation with slats to seasonally impound the river (this impoundment has not been used for 10 years). A small water supply diversion exists approximately one mile upstream from the main structures at the Merle Ranch. A small diameter pipe from this diversion parallels the river for approximately one mile. There are no known Federal Energy Regulatory Commission applications or permits.

Transportation, Facilities and Other Developments

The San Antonio Trail (5E04) borders the river between Fresno and San Antonio Camps. The San Antonio Trail, which passes through the private land in section 33, has been closed to the public due to the private ownership. A Forest Service administrative site known as the Merle Ranch is located within segment 2. There are several structures and at least two roads within the river corridor at the Merle Ranch.

Recreation Activities

Moderate levels of day hiking, backpacking, and fishing occurs along the San Antonio Trail. Public access to the Merle Ranch is currently prohibited and restricts access to segment 2. Historic and prehistoric resources at the Merle Ranch lend themselves to development of interpretive facilities on the ranch. Fishing opportunities on and near the ranch could be enhanced by trail development.

Other Resource Activities

Forest Service pack stock grazes within segment 2 at the Merle Ranch. Prescribed burning is planned around the perimeter of the ranch and also along the San Antonio Trail corridor. Livestock grazes the non-federal land in section 33.

Special Designations

All of segment 1 and portions of segment 2 are within the Ventana Wilderness.

Socio-Economic Environment

Located within 8 miles of the river corridor, Fort Hunter Liggett and its facilities comprise the closest community. The historic San Antonio Mission and ‘The Hacienda’, part of the former Hearst Ranch, are both found at the Fort and attract international visitors. The closest full service community is King City (18 miles). Designation of the San Antonio River as a Wild and Scenic River would have a negligible impact on the local economy. Use patterns would be unaffected.

Current Administration and Funding Needs if Designated

	Expenses Independent of Designation	Additional Expenses with Designation
General Administration	\$10,100	\$34,300
Development of River Management Plan	\$0	\$150,000
Development Costs	\$0	\$10,000
Operation and Maintenance Costs	\$50,500	\$11,500
Total Cost First Five Years	\$303,000	\$205,800

* General administration and operation and maintenance costs are estimated to continue at \$ 12,400 annually.

Suitability Factor Assessment:

1. Characteristics that do or do not make the area a worthy addition to the National System.

Worthy: Abundant, varied historic and prehistoric sites are present within and near the river corridor, and probably represent an occupation sequence spanning thousands of years. Sites both in and near the river corridor can be argued to be linked not only to each other but to the river corridor as a means of connection to the ocean and thus to the larger world.

This corridor could, based upon the heritage resources, be considered a worthy addition to the National System if the interpretive potential of this location is realized. Doing so would require carefully planned and diligently implemented measures to protect sensitive heritage resources. Such measures may be needed in any case if existing recreational opportunities are enhanced or if new recreational opportunities are developed in this area.

Not Worthy: The private parcel in segment 1 has existing houses and other developments. This land would be difficult to acquire. If it remains in private ownership, this would detract from designation. All of segment 1 is within the Ventana Wilderness. The most appropriate designation for National Forest System lands would be a wild river. The developments on the private parcel and the road accessing this parcel do not meet the criteria for this designation.

2. The current status of land ownership and use in the area.

All land in segment 1 is within the administrative boundary of the Los Padres National Forest. Approximately 45 acres of private land (Section 33) is within the river corridor in segment 1. Forest Service pack stock graze within segment 2 at the Merle Ranch. Prescribed burning is planned around the

perimeter of the ranch and also along the San Antonio Trail corridor. Livestock grazing occurs on the private land in Section 33.

3. *The reasonable foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the System.*

Potential dams/water development would be curtailed, but there are no current proposals for this kind of development.

4. *The federal agency that will administer the area, should it be added to the System.*

USDA Forest Service.

5. *The extent to which the agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.*

There are no proposals to share costs.

6. *The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the system.*

The landowner of the private parcel in Section 33 has not expressed a willingness to convey the property to federal government. The Forest Service is required to acquire properties based on fair market value. The market value of this parcel has not been established.

7. *A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river, should it be proposed for inclusion in the System.*

Participation is unexpected.

8. *Support or opposition to designation.*

Local environmental groups support designation of Wild and Scenic Rivers in general, but there has been no support for the San Antonio River specifically. Local hunting and fishing groups may oppose designation. The Monterey Ranger District is 92 percent Wilderness and these groups are very concerned about special designations on National Forest System lands restricting their use of these public lands.

9. *Contribution to river system or basin integrity.*

The watershed of the San Antonio River upstream from these segments is almost entirely within the Ventana Wilderness. The designation as a Wild and Scenic River would not add significant additional protection of the watershed than that already provided by wilderness designation.

10. *Potential for water resources development.*

No known proposals or existing licenses exist.

Forest Plan Alternatives

Briefly describe how a particular river was treated in each of the Forest Plan alternatives:

Alternative 1: No designation recommended for either segment.

Alternative 2: No designation recommended for either segment. No designation would protect the outstandingly remarkable heritage values by not highlighting their existence within the river corridor

Alternative 3: No designation recommended for either segment. The ORVs do not include wildlife or fisheries.

Alternative 4: No designation recommended for either segment. The ORVs do not include recreation or scenery.

Alternative 4a: No designation recommended for either segment.

Alternative 5: No designation recommended for either segment.

Alternative 6: Segment 1 would be recommended for wild designation, consistent with the existing wilderness. Segment 2 would be recommended for scenic designation due to the impoundment and improvements at Merle Ranch. The Merle Ranch area provides an opportunity for interpretation and research of the heritage resource.

Suitability Determination for the Selected Alternative

Describe the rationale for the suitability determination of the selected alternative 4a:

No designation recommended for either segment. While there are outstandingly remarkable values in these segments, they can be protected by other means. The Merle Ranch has significant historic and prehistoric resources. Other avenues to protect the cultural resources should be explored and could offer better protection than designation as a Wild and Scenic River. Designation does not add any additional budget for management of the river so the protection of the cultural resources is not assured.

The ranch is also an administrative site where Forest Service pack stock are pastured. The designation of the river could have a negative impact on the use of the ranch as an administrative site. It could also restrict potential future uses of the ranch.

Upper Sespe Creek

Study Area Summary

Name of River: Upper Sespe Creek

Location: State of California, Ventura County, Los Padres National Forest

Upper Sespe Creek originates in the south one-half of T6N, R24W, Sec 4, SBBM and flows in a generally easterly direction. For the purpose of this study, the Sespe Creek was divided into three segments.

Segment 1: Sespe Creek is considered to be free flowing below a point in the northeast one quarter of T6N, R24W, Sec 4, SBBM, and ends at the confluence of Chorro Grande Canyon in T6N, R23W, Sec 21, SBBM. Approximately 2.8 miles of this segment flow through privately owned lands.

Segment 2: Extends from the confluence of Chorro Grande Canyon to the section line dividing T5N, R23W, Sec 1 and T5N, R22W, Sec 6, SBBM. Approximately 1.1 miles of this segment flows through privately owned lands.

Segment 3: Extends from this section line to the confluence of Rock Creek in the northwest ¼ of T5N, R22W, Sec 5, SBBM.

River Mileage:

River Segment	Miles Studied	Miles Eligible
1	9.8	0.0
2	9.5	9.5
3	2.0	2.0

Studied: 21.3 miles

Eligible: 11.5 miles

Eligibility Inventory

Free-flow Determination:

The upper portion of Sespe Creek has neither past nor current diversions or impoundments.

Determination of Outstandingly Remarkable Values (ORVs):

1. Scenery

Description: Much of the length of the Sespe is scenic attractiveness class "A" landscape, within the Southwest Mountain and Valley Character type. It is distinctive not only for the presence of water, but because of the variety of landform, color, and vegetation. Most of the river flows adjacent to State Highway 33, a national Scenic Byway and California Scenic Highway.

From Chorro Grande to Sespe Gorge, Pine Mountain stands out as a dominant peak among a mix of steep slopes and broader plains. The entire area appears to be covered with a mix of chaparral. The Piedra Blanca rock outcrops dominate all views with the high color contrasts and massive scale. Water is sometimes underground and meanders through the landscape.

The gorge creates distinctive straight canyon walls, with overhanging pines as a focal point. Pools exist year-round among clusters of rock. Dramatic spring and fall colors are created in the riparian zone accentuated by the cottonwoods. The river then opens to views once again of Pine Mountain ridge and the high contrasts of the rock outcrops.

As Sespe Creek twists and turns, it acquires a wash appearance with evidence of human disturbances, vegetation more typical of the area, and a very open feel to the land. As it approaches Beaver Campground, it becomes sandier, chaparral-enclosed, and has a lasting presence of water. As it parallels the Middle Sespe Trail (Forest Trail 22W04), the wash appearance and sandy shores become evident. Finally, the river broadens again and winds through a chaparral-covered landscape.

State Scenic Highway 33 between Ozena and Ojai was designated the Jacinto Reyes National Forest Scenic Byway in 1992. The scenic designation was based on "...an amazing diversity of landscapes and habitats in a short distance. Spectacular vistas occur along the entire route yet the traveler is also treated to close encounters with beautiful cliffs, rock formations, and lush riparian areas."

Determination: The scenic values between Chorro Grande Canyon and Rock Creek (Segments 2 and 3) are considered to be outstandingly remarkable. The distinctive and unique variety of landforms and variations of colors and the massive scale of the Piedra Blanca formations in relationship to the soft mounding chaparral stand out in high contrast to areas with similar settings. Scenic values within Segment 1 are not considered to be outstandingly remarkable.

2. Recreation:

Description: Recreation opportunities along Sespe Creek are excellent and cover a broad spectrum. Above Chorro Grande Canyon, Sespe Creek mainly runs underground and thus affords limited opportunities. Cherry Canyon Road (National Forest System Road (NFSR) 6N01) crosses this segment about midway, offering access for hiking, shooting, and four wheel driving. Access for users of the headwater portion of Sespe Creek is from the Potrero Seco Road (NFSR 6N03) along the ridge rimming the northern headwater. Private lands without any public easement block any access from Highway 33 going upstream to the headwaters. Access downstream of this road would be from the shoulder of State Highway 33.

Recreation activities below Chorro Grande Canyon include swimming and wading, picnicking, backpacking, hiking, horseback riding, bicycling, rock climbing, hunting, fishing, photography, and driving for pleasure with outstanding visual experiences. All but two miles of this segment is near State Highway 33. As a California Scenic Highway and National Forest Scenic Byway, State Highway 33 has the potential to draw visitors from throughout California and the nation. Most users are from southern California. While actual use statistics are not available, an estimated 75 percent of all users of this creek are from this local area. The remaining 25 percent (in order of importance) come from other parts of California, other states, and even other countries.

Visitors can choose among a variety of dispersed recreation opportunities as listed above. As recreation use increases on the highway, it demonstrates the willingness of visitors to travel long distances to use the river resources for recreational purposes. Interpretive exhibits are planned along the highway, and have the potential to attract visitors from outside the region. River access would be mostly from the shoulder of State Highway 33. The one exception to this would be Segment 3, which is the last two miles from Beaver Campground east where access is limited to Middle Sespe Trail and Howard Creek Road (NFSR 5N05). The Middle Sespe Trail gets light use from hikers, mountain bikers, and horseback riders.

Use is generally heaviest in the spring corresponding with high flows in the Sespe, followed by summer and fall getting about equal use. In these seasons, driving for pleasure, picnicking, and swimming are key activities along the river. Fall colors in the riparian vegetation are also important to visitors.

Determination: The recreation values above Chorro Grande Canyon (Segment 1) are not considered to be outstandingly remarkable.

Below Chorro Grande Canyon, the recreation values are considered to be outstandingly remarkable. Segments 2 and 3 offer excellent opportunities for many dispersed forms of recreation, including fishing, swimming, hiking, and horseback riding. Twelve miles of Sespe Creek are visible from the National Scenic Byway (State Highway 33). The view corridors and scenic vistas of the river canyon set amidst the stark chaparral provide unique and lively contrasts for the casual weekend drive in the mountains.

3. Geology

Description: The east-west trending Transverse Ranges include California's highest peaks south of the central Sierra Nevada and the only Precambrian rocks in the coastal mountains of the United States. The Transverse Ranges are a unique geomorphic, stratigraphic, petrologic, and structural belt 400 km long and 100 km wide that is offset by a few tens of kilometers right laterally by the northwest trending San Andreas fault system. The prominent east-west trend of the Transverse Ranges is unique among the rest of the northwest-southeast trending coastal ranges in California. It has been proposed that they have rotated significantly from their original position. Along the entire mapped length of the San Andreas Fault Zone, from northern California to Mexico, no other belt of rocks, structure, and geomorphology similar to the Transverse Range Province crosses the zone. In addition, despite their comparatively small area, the Transverse Ranges seem to incorporate a greater spectrum of rock types and structure than any other province in the state. The Transverse Ranges may be the result of compressional forces along the Big Bend in the San Andreas Fault that itself is a unique geologic feature in North America if not the world.

Upper Sespe Creek occupies an east-west trending valley in the Transverse Ranges. The valley was formed by downfaulting along the Pine Mountain Fault and this has allowed a good sequence of Tertiary, Oligocene, and Miocene rocks to be preserved. Upper Sespe Creek cuts through Tertiary sedimentary rocks of the Cozy Dell Shale, Matilija Sandstone, and the Juncal Shale before cutting across Munson Creek Fault. This fault is a high-angle reverse fault with several thousand feet of displacement. The south side has been displaced up relative to the north side. The creek then continues in Tertiary sedimentary rocks of the Juncal and Matilija formations. Where the creek passes through the Matilija Sandstone, it forms a steep-walled narrow canyon called Sespe Gorge. The Matilija Formation is folded in a syncline through this gorge. Downstream, the creek passes through an arkosic member of the Cozy Dell formation, the Coldwater Sandstone and shale. The creek also crosses the Tule Creek Fault near Hartman Ranch. This fault also displays several thousand feet of vertical displacement with the south side up relative to the north side. Both the Munson Creek and Tule Creek Faults are between two major faults of the Transverse Ranges: the Santa Ynez and Pine Mountain Faults. At Tule Creek, upper Sespe Creek makes a right angle turn to the east and follows the trace of Tule Creek Fault for approximately 1.5 miles. The creek primarily follows the fault through the Cozy Dell formation to the confluence of Piedra Blanca Creek.

Determination: The sedimentary rock formations and structural features associated with the Tule and Munson Creek Faults and the synclinal folds in the Matilija Sandstone are not considered to be outstandingly remarkable in comparison with similar features located elsewhere in this geologic province.

4. Fish and Wildlife

Description: Sespe Creek contains suitable habitat for several federally listed endangered, threatened, rare or Forest Service sensitive species. Species that inhabit Sespe Creek include arroyo toad (*Bufo californicus*), California condor (*Gymnogyps californians*), southern Pacific pond turtle (*Actinemys marmorata pallida*), and two-striped garter snake (*Thamnophis hammondi*).

Sespe Creek historically supported anadromous runs of the endangered California southern steelhead (*Oncorhynchus mykiss*), and currently provides habitat to native stocks of rainbow trout, arroyo chub, and three-spined sticklebacks. Nonnative fish species have recently invaded and occupied Sespe Creek. These species include the green sunfish, bass, and black bullhead catfish.

The riparian corridor of Sespe Creek provides habitat for a variety of neo-tropical migratory birds and federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*). It may contain potential habitat for the federally listed endangered least Bell's vireo (*Vireo bellii pusillus*).

Small numbers of steelhead trout still utilize Sespe Creek for spawning and rearing habitat within the Los Padres National Forest and within the designated segments of the stream.

A minor amount of recreational impacts occur from hiking, fishing and equestrian uses along the Middle Sespe Trail. With the exception is its crossing of Sespe Creek at Beaver Campground, most of this trail is located on higher ground well north of Sespe Creek.

Arroyo toads, a federally listed endangered species, are found within this portion of Sespe Creek in scattered habitat downstream from Tule Creek. The creek includes approximately 25 miles of modeled and suitable habitat for the species. Impacts occur to toads at Lion Campground from recreational uses. This site has been seasonally closed over the past six years and closed virtually year round the past two years in response to Section 7 requirements. This site is downstream of the study river.

The California red-legged frog (*Rana aurora draytonji*), a federally listed threatened species, historically occurred along Sespe Creek but appear to have been extirpated by predation by exotic bullfrogs and warm water fish species. The entire length of river lies within designated critical habitat.

Modeled habitat for least Bell's vireo and southwestern willow flycatcher, both federally listed as endangered, exists along Sespe Creek; however, no recent occupancy of least Bell's vireo has been documented. There have been several sightings of the more common willow flycatcher, a Forest Service sensitive species. Sespe Creek contains potential cliffside nesting habitat for the peregrine falcon (*Falco peregrinus*), a Forest Service sensitive species.

The southern Pacific pond turtle and the two-striped garter snake, Forest Service sensitive species, are found scattered throughout the drainage.

Determination: Sespe Creek includes approximately 25 miles of suitable habitat for arroyo toads. The resident population of arroyo toads in segments 1 and 2 is one of the largest within one hundred miles, and since the geographical range of this meta-population contains gaps, this is outstandingly remarkable. Sespe Creek contains steelhead trout spawning habitat important for the recovery and propagation of the federally endangered southern California evolutionarily significant unit. Approximately 36 miles of potential habitat exists. There have been several southwestern willow flycatcher sightings (Forest Service sensitive) within the drainage. Intact habitat for southern steelhead and southwestern willow flycatcher habitat is also outstandingly remarkable, because samples of this intact habitat are very rare on the Los Padres National Forest and in the southern California Province.

5. Heritage resources (Cultural)

Description: A portion of the width of the corridor along the eastern end has been inventoried; in general, only a small portion of the corridor has been inventoried. Nonetheless, numerous sites are known for this study area.

Several prehistoric sites are known; subsurface testing would be required to assess their significance. Some of the sites might prove to offer important information regarding the ancestral Ventureño Chumash.

Determination: Heritage values are not considered to be outstandingly remarkable.

Future research may well demonstrate high scientific or other values for sites within this corridor. A question needing further investigation is that of the nature of potential connections between these sites and impressive rock art sites that are within the Upper Sespe drainage but that are outside the river study area. Current information is unfortunately insufficient to allow the identification of any outstandingly remarkable values within the study area.

6. Heritage resources (Historic)

Description: A portion of the width of the corridor along the eastern end has been inventoried; in general, only a small portion of the corridor has been inventoried. Nonetheless, numerous sites are known for this study area.

Regarding historic resources, a homestead site is present but has had its integrity compromised by removal of the cabin. One of two adobe sites, the Ortega Adobe (possibly built in the 1880's or 1890's) has similarly had its integrity diminished by destruction of the building. The significance of the Potrero Seco Adobe (built in 1890) is unknown and needs more complete recording.

Determination: Heritage values are not considered to be outstandingly remarkable.

Future research may well demonstrate high scientific or other values for sites within this corridor. A question needing further investigation is that of the nature of potential connections between these sites and impressive rock art sites that are within the Upper Sespe drainage but that are outside the river study area. Current information is unfortunately insufficient to allow the identification of any outstandingly remarkable values within the study area.

7. Other (Botany)

Description: The botanical resources of the Upper Sespe Creek are fairly well known due to the creek's proximity to road and trail; however, no systematic effort has been made to inventory the botanical resources found in the study corridor.

Based on a review of existing literature, there are no known occurrences of endangered, threatened, proposed, candidate, or sensitive plant species within one-quarter mile of the upper Sespe Creek. There are a number of occurrences of sensitive plant species in the upper Sespe Creek watershed but these populations all occur more than one mile from the creek.

Determination: Although there is a sensitive plant occurrence within the study corridor, it is not considered to be an outstandingly remarkable botanical feature because of the small proportion of the plant population within the study corridor and the association of the species with upland habitat types.

Summary of Outstandingly Remarkable Values:

Scenery

Sespe Creek in segments 2 and 3 has notable and exemplary visual features that include contrasts created by large rock outcroppings and seasonal colors in combination with water that attracts regional and national attention. This is supported by the National Forest Scenic Byway designation.

Recreation

Below Chorro Grande Canyon, Sespe Creek has outstandingly remarkable recreation values. It offers excellent dispersed recreation opportunities including driving for pleasure and viewing scenery on the adjacent Scenic Byway. Much of the recreation occurring is water-oriented along Sespe Creek. The recreation experiences are accentuated by the natural scenic surroundings.

Fish and Wildlife

The resident population of arroyo toads in the segments 1 and 2 of Sespe Creek is one of the largest within one hundred miles, and since the geographical range of this meta-population contains gaps, this is outstandingly remarkable. Intact habitat for southern steelhead and southwestern willow flycatcher habitat is also outstandingly remarkable, because samples of this intact habitat are very rare on the Los Padres National Forest and in the southern California National Forests.

Potential Classification

Table 444. Upper Sespe Creek - Potential Classification by River Segment

	Segment 1	Segment 2	Segment 3
WILD RIVER			
Free of impoundments		Yes	Yes
Generally inaccessible except by trail		No	Yes
Watersheds or shorelines essentially primitive		No	No
Waters unpolluted		Yes	Yes
SCENIC RIVER			
Free of impoundments		Yes	Yes
Accessible in places by roads		Yes	Yes
Watershed largely primitive and undeveloped		No	Yes
RECREATIONAL RIVER			
Some impoundments or diversions in past		Yes	
Readily accessible by road or railroad		Yes	
Some development along shoreline		Yes	
Eligibility Status	Ineligible	Recreation	Scenic

Suitability Report

Description

Landownership and Land Uses

Segment 2: Extends from the confluence of Chorro Grande Canyon to the western boundary of T5N, R22W, Sec 6 (approximately one-half mile east of Beaver Camp). Approximately 1.1 miles of this segment flows through non-federal lands.

Segment 3: Extends from this section line to the confluence of Rock Creek in the northwest ¼ of T5N, R22W, Sec 5.

River mile location is from the source (see table 450: Upper Sespe Creek - Segment Description).

Table 450. Upper Sespe Creek - Segment Description

River Segment	Miles	Boundaries	Ownership	Zoning/Land Use
2	9.8-19.3	Chorro Grande to ½ mile east of Beaver Camp	NFS (2580 acres); non-federal (225 acres)	NFS: Scenic Byway; Non-federal: Rural-low intensity, weekend cabins, private residence
3	19.3-21.3	½ mi. east of Beaver Camp to Howard Creek	NFS (616 acres)	Dispersed non-motorized recreation

The land use on the private parcels is unlikely to change from the current rural atmosphere. This is due in part to the fact that these properties are not part of the southern California electricity grid. The closest urban utilities are 20 miles away.

Mineral and Energy Resource Activities

There are no existing mineral uses or potential for future mineral development in the vicinity of the river corridor. Minor evidence of exploratory mining that occurred up to the 1960’s can still be seen in Potrero John Canyon and Tule Creek; mining activity in the corridor has been absent since that time.

Water Resources Development

There is no potential for the river to be used for either hydropower or water diversion in this reach. In the 1970’s, dam construction was proposed near Howard Creek. This proposal was never realized. If proposed today, it would not be approved due to the fact that a water transmission pipeline would not be allowed through the Sespe Wilderness or by tunneling through the mountains to Ojai. The management of the numerous endangered species in this area would preclude the possibility of diverting creek water.

Transportation, Facilities and Other Developments

The upper portion of segment 2 meanders through private property for approximately one mile. The entire segment parallels State Highway 33 for the remaining eight miles to the boundary between segments 2 and 3. State Highway 33 is designated as a National Forest Scenic Byway with numerous turnouts that provide vistas of the Sespe Creek corridor. Highway 33 was constructed in the 1930’s to provide an important link for commerce and recreation between the San Joaquin Valley and the south-central coast of California. It continues today to provide this same important link. This currently includes semi-trucks hauling gravel from inland valleys to the coastal urban areas.

Potrero John Trailhead (for Forest Trail 23W06) is located along State Highway 33 between Chorro Grande and Sespe Gorge. The trail traverses the corridor in a northerly direction and crosses Potrero John Creek several times in its 1.6-mile length.

The Middle Sespe Trailhead is in the lower portion of segment 2 at Beaver Campground along State Highway 33. The Middle Sespe Trail (Forest Trail 22W04) crosses the creek once and then parallels the creek on the north bank within the corridor for 4 miles. Several social trails to swimming holes are evident.

The northern terminus of the Howard Creek Road (NFSR 5N05) is located in segment 3 of the river corridor. There is a five-acre private parcel that is mostly within the designated Wild and Scenic River corridor. The western portion of this parcel is within the southeastern boundary of the study river corridor. This road is gated south of the corridor. This keeps public vehicle traffic out of the corridor. The public is allowed access beyond the gate on foot, horseback, or mountain bike. The property owners have special use permits authorizing the following on National Forest System land: water transmission

pipeline, driveway, and gate. The owners provide maintenance on the entire length of Howard Creek Road through an agreement with the Forest Service. Howard Creek Campground was located at the end of Howard Creek Road. It was closed in 1978 after heavy winter flooding damaged the campground beyond repair.

Recreation Activities

Recreation opportunities along Sespe Creek are excellent and cover a broad spectrum. Recreation activities below Chorro Grande Canyon include swimming and wading, picnicking, backpacking, hiking, horseback riding, bicycling, rock climbing, hunting, photography, and driving for pleasure with outstanding visual experiences. All but two miles of this segment are near State Highway 33. As a California Scenic Highway and National Forest Scenic Byway, State Highway 33 has the potential to draw visitors from throughout California and the nation. Most users are from southern California. While actual use statistics are not available, an estimated 75 percent of all users of this creek are from this local area. The remaining 25 percent (in order of importance) come from other parts of California, other states, and even other countries.

Visitors can choose among a variety of dispersed recreation opportunities as listed above. As recreation use increases on the highway, it demonstrates the willingness of visitors to travel long distances to use the creek's resources for recreational purposes. Interpretive exhibits are planned along the highway, and have the potential to attract visitors from outside the region. Creek access is mostly from the shoulder of State Highway 33. The one exception to this would be segment 3, which is the last two miles from Beaver Campground east where access is limited to Middle Sespe Trail and Howard Creek Road. The Middle Sespe Trail gets light use from hikers, mountain bikers, and horseback riders. Beaver Campground is the only existing campground in the corridor; it has 11 campsites. The campground is an acceptable use within the classification criteria for a recreation river segment. However, it is currently being evaluated for user conflicts with endangered species.

Use is generally heaviest in the spring corresponding with high flows in Sespe Creek, followed by summer and fall getting about equal use. In these seasons, driving for pleasure, picnicking, and swimming are key activities along the creek. Fall colors in the riparian vegetation are an aesthetically pleasing attribute along segments 2 and 3 of the river corridor.

Other Resource Activities

Other than the small family gardens found on the private parcels, there is very little potential for this portion of the Sespe Creek corridor to have uses other than recreation in the foreseeable future. A stream gauge designed to measure the flow of the river during flood events is located in the Sespe Gorge area. This structure is permitted to the U.S. Geological Survey and operated by the Ventura County Watershed Protection District. It is likely that the use of this gauge may be phased out in the near future. There is no timber harvesting or livestock grazing occurring along these segments. There is a minimal amount of livestock grazing occurring on a few private parcels upstream. Due to its remoteness, the area is not on the southern California electricity grid; this currently tends to limit the types of activities for other resources.

Special Designations

The Sespe Wilderness borders the north side of the corridor near Howard Creek and also near Potrero John Trail. The intent of enabling legislation is to protect these lands in their primitive condition, and to allow no development or motorized/mechanized access. This same legislation designated the downstream portion of Sespe Creek as a Wild and Scenic River starting at Howard Creek.

Highway 33 is designated as a National Forest Scenic Byway. This designation is given to deserving routes in the National Forest that exhibit outstanding scenery. A management plan is currently being developed for this Scenic Byway.

All of these designations are complimentary to, and do not conflict with, studying the suitability of Sespe Creek for inclusion in the Wild and Scenic River system.

Socio-Economic Environment

Ojai (population 8,000) is the closest town (25 miles). The economy of Ojai Valley is based on agriculture and tourism. The immediate area is not growing rapidly due to open space zoning. The Highway 33 corridor receives steady year-round use. The majority of the traffic is passing through the Forest. Use in segment 2 is limited to non-motorized access. Designation as a Wild and Scenic River would have a minimal impact on use patterns. If segment 1 is included in any designation, there is a potential small-scale impact due to acquisition of private parcels if willing sellers exist. This would create a minimum impact on the county property tax base.

Current Administration and Funding Needs if Designated

	Expenses Independent of Designation	Additional Expenses with Designation
General Administration *	\$15,000	\$13,400
Development of River Management Plan	\$0	\$60,000
Development Costs	\$0	\$2,000
Operation and Maintenance Costs	\$75,000	\$5,000
Total Cost First Five Years	\$90,000	\$80,400

*General administration and operation and maintenance costs are estimated to continue at \$16,000 annually.

Suitability Factor Assessment:

1. Characteristics that do or do not make the area a worthy addition to the National System.

Worthy: Characteristics that make it a worthy addition include its predominantly undeveloped character in a rural setting and the fact that it flows unimpeded to the ocean. It is also steelhead habitat and contains other riparian threatened, endangered, and sensitive species, making it rich in biodiversity. For approximately 8 miles in segment 2, the Sespe Creek parallels State Highway 33, which is both a National Forest Scenic Byway and State Scenic Highway. The presence of Sespe Creek played a key role in these two designations. This proposed addition would also be contiguous with the existing segment of Sespe Creek that is already designated as a scenic river.

Not worthy: Characteristics that make it not a worthy addition include moderate amounts of large semi-truck traffic, principally on weekdays. Also, the large landslide along Highway 33 near Tule Creek represents a source for sedimentation into Sespe Creek as well as a visual scar. However, this does represent a prime spot for geologic interpretation. The slide face is being revegetated both naturally and through plantings by CalTrans. Finally, the developments on private land inholdings at Faser Cold Springs downstream of the landslide and between Munson and Chorro Grande Creeks are detractors. Although no large structures are present, these lands are in contrast with the generally undeveloped nature of the creek.

2. The current status of land ownership and use in the area.

With few exceptions, lands in the area are National Forest System lands. On the private land parcels, there is a limited amount of agriculture occurring. There is also the potential of artificial riprap being swept away down river from the riparian area of private land at Faser Cold Springs. California Department of Transportation (CalTrans) has a special use permit for Highway 33 that is 132 feet wide. A separate permit allows them to use and maintain the ‘sand shed’ above Tule Creek for storage of sand

and gravel for spreading on the highway during the winter. Collectively, these uses can be managed in accordance with management of Sespe Creek under the Wild and Scenic Rivers Act.

3. *The reasonably foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the System.*

Portions of the river are under two federal power withdrawal projects. The Federal Energy Regulatory Commission (FERC) has recommended that projects (#64 and 414) be terminated. They are currently involved in the litigation brought by the National Wildlife Federation. Due to the surrounding wilderness area and the multiple species listed as threatened, endangered, or sensitive, it is unlikely that any project proposed in the future would be approved.

4. *The federal agency that will administer the area, should it be added to the System.*

The USDA Forest Service would be the federal agency that will administer the area, should it be added to the System. Sespe Creek is in the Los Padres National Forest on National Forest System lands.

5. *The extent to which the agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.*

As Highway 33 is immediately adjacent to Sespe Creek, management of the highway in essence becomes management of the creek in most locations. The Forest Service plans to apply for ISTEPA grant funding through CalTrans. If funded, these proposals would include development of brochures, signs, and other interpretive material along the Scenic Byway/Wild and Scenic River corridor. In addition, there is coordination and planning involved with CalTrans over their management of Highway 33 alongside Sespe Creek.

6. *The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the system.*

The best parcel to acquire is Faser Cold Springs as an administrative site. Acquisition costs would be an estimated \$500,000. In addition, operation and maintenance costs would be contingent upon its future use.

7. *A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river, should it be proposed for inclusion in the System.*

As the river corridor is in a remote area, it is expected that the State of California and Ventura County would participate to a very slight degree in the preservation and administration of the river, should it be proposed for inclusion in the System. However, it is also expected that the State of California would welcome the inclusion, as it is complimentary to the State Scenic Highway designation for Highway 33. Any participation by State or county agencies would be done as economically as possible in light of current budget constraints.

8. *State and/or Local government's ability to manage and protect the outstandingly remarkable values on non-federal lands.*

CalTrans manages State Highway 33 on National Forest System lands under permit from the USDA Forest Service. On the several parcels of private land, CalTrans holds easements for Highway 33. As these easements are old, they likely do not contain language specifically related to protection of outstandingly remarkable values on these non-federal lands. However, CalTrans has operating policies and procedures that would amount to protection of these values.

Ventura County would be able to protect outstandingly remarkable values by retaining the existing zoning regulations in the area. These laws have set a "tone" of lightly developed, rustic private parcels interspersed within the National Forest System lands.

9. The consistency of designation with other agency plans, programs or policies.

Designation of Sespe Creek would be consistent with other plans and activities. It would be consistent with the current Los Padres Land and Resource Management Plan. It is consistent with Cal Trans' plans for highway maintenance. There are no known plans by Ventura County, U.S. Fish and Wildlife Service, or any other agency that are inconsistent with this possible designation. The one exception to this is a proposal by CalTrans to add a communication site along Highway 33 to assist their radio communication system.

10. Support or opposition to designation.

Support for designation is from Keep the Sespe Wild Committee and Friends of the River. Opposition would be anticipated from a large segment of forest users who have expressed an opposition to special land use designations. It would appear that the results of our public meetings for Forest Plan Revision indicate a majority of users like the status quo.

11. Contribution to river system or basin integrity.

Designation of the proposed segments of Sespe Creek would protect an additional long segment of steelhead habitat as well as adding to the basin integrity already afforded by the existing designation of 31.5 miles of Sespe Creek immediately downstream of the study segment. This is modeled steelhead habitat that may be a contributor to species recovery. These segments of Sespe Creek are entirely outside the wilderness and may add an additional level of habitat protection for steelhead. Designation would add to river basin integrity by adding a significant segment that would result in protections along Sespe Creek from its upper reaches to near its confluence with Santa Clara River that leads to the Pacific Ocean.

12. Potential for water resources development.

Historically, Sespe Creek has been studied for water resources development. This issue became one of the reasons that the Sespe Wilderness was created. For many years, United Water Conservation District studied Sespe Creek for possible construction of water impoundments. There were also projects No. 64 and No. 414 done by FERC. At this time and into the foreseeable future, any requests for water resources development would be denied based either on effects on Sespe Wilderness or endangered species.

13. Contribution to other regional objectives/needs.

An interagency consortium has a long-term regional objective of the improvement of steelhead and arroyo toad habitat. Designation of Sespe Creek would aid in this important project. Agencies included are California Department of Fish and Game, U.S. Fish and Wildlife Service, NOAA Fish, and USDA Forest Service.

Forest Plan Alternatives

Briefly describe how a particular river was treated in each of the Forest Plan alternatives:

Alternative 1: No segments are recommended for designation.

Alternative 2: Segment 2 is recommended for recreational river designation. Segment 3 is recommended for scenic river designation. Segments 2 and 3 have scenery and recreation as ORVs. Due to the presence of State Highway 33 within the river corridor, segment 2 is classified as recreation. Segment 3 contains an improved dirt road and a private parcel with improvements and is classified as scenic.

Alternative 3: Segment 2 is recommended for recreational river designation. Segment 3 is recommended for scenic river designation. Upper Sespe Creek has wildlife and fisheries as ORVs. Due to the presence of State Highway 33 within the river corridor, segment 2 is classified as recreation. Segment 3 contains an improved dirt road and a private parcel with improvements and is classified as scenic. This recommendation balances the need to protect and enhance the free-flowing character, water quality and

outstandingly remarkable values with the conservation of a wide range of wildlife and plant species (especially TES) and habitats, biodiversity, linkages and corridors.

Alternative 4: Segment 2 is recommended for recreational river designation. Segment 3 is recommended for scenic river designation. Segments 2 and 3 have scenery and recreation as ORVs. Recommended rivers have recreation and/or scenery as outstandingly remarkable values. Due to the presence of State Highway 33 within the river corridor, segment 2 is classified as recreation. Segment 3 contains an improved dirt road and a private parcel with improvements and is classified as scenic.

Alternative 4a: Same as alternative 4.

Alternative 5: No segments are recommended for designation.

Alternative 6: Segment 2 is recommended for recreational river designation. Segment 3 is recommended for scenic river designation. Due to the presence of State Highway 33 within the river corridor, segment 2 is classified as recreation. Segment 3 contains an improved dirt road and a private parcel with improvements and is classified as scenic. This recommendation protects and enhances a wide range of values and features, including species conservation, biodiversity, open space, natural beauty, recreation and research.

Suitability Determination for the Selected Alternative

Describe the rationale for the suitability determination of the selected alternative 4a:

Segment 2 is recommended for recreational river designation. Segment 3 is recommended for scenic river designation. This recommendation best meets the intent of the Wild and Scenic Rivers Act and best protects the outstandingly remarkable values identified in these segments. The two river segments are worthy of designation in the Wild and Scenic River System. They have scenery, recreation, and wildlife as outstandingly remarkable values. This recommendation also adds a little more emphasis to riparian and endangered species protection in addition to what already exists. Finally, this recommendation adds to a unique remaining ecosystem in southern California.

This alternative represents a shorter portion of Sespe Creek being potentially designated. The character of the excluded creek channel changes from Munson Creek up to Chorro Grande, in that it is more open and less impressive visually. The additional factor for selecting this alternative is that the excluded segment contains several private parcels of land that contain structures and are potentially non-conforming.

Funding for acquiring these parcels (if the seller were willing) is a low priority compared with areas near the Ventura River that are closer to Ojai and have the greatest potential for development. In contrast, the parcels on the Sespe have no electricity and are primitive, making them a low priority for development and acquisition funding.

This alternative also shares a common boundary with an existing long segment of designated Wild and Scenic River on Sespe Creek. The lengthening of the Wild and Scenic River designation represented by this alternative and existing segment is a quality addition to the Wild and Scenic River System.

Appendix F. Research Natural Areas

Research Natural Areas Background and Status

Research Natural Areas (RNAs) are part of a national network of ecological units set aside primarily for research and education and secondarily for the preservation of biological diversity. They provide opportunities for non-manipulative, non-destructive research, long-term monitoring, and educational activities. Because they are protected in a natural state, RNAs are particularly valuable for monitoring long-term ecological change as well as serving as control areas against which the short- and long-term effects of resource management can be compared.

By encompassing a wide range of ecological types, RNAs also provide habitat for less well-known elements of the biodiversity such as insects, fungi, mosses, lichens and soil organisms. In short, RNAs serve as repositories for biodiversity that safeguard habitats, species, and natural processes. Recommendations and analysis of RNAs are presented in this appendix.

Research Natural Areas are established to:

- Preserve a spectrum of unmodified areas that represent both common and unique types of ecosystems.
- Contribute to a national network of ecological areas set aside for research, education, and the preservation of biodiversity.
- Serve as baseline areas for monitoring long-term ecological changes such as succession and the effects of global climate change.
- Serve as control areas for comparing the effects of management activities in similar ecosystems.
- Serve as sites for conducting non-destructive research.
- Provide opportunities for educational activities.
- Preserve genetic diversity.

Currently there are 14 established Research Natural Areas on the southern California national forests (see table 322) totaling 14,330 acres. These areas capture an array of both common and unique vegetation types on the four southern California national forests.

Table 322. Established RNAs on the southern California National Forests

Name	Forest	Target Element	Year Est.	Acres
Falls Canyon	ANF	Bigcone Douglas-fir forests	1998	1,440
Fern Canyon	ANF	Mixed chaparral; live oak woodlands	1972	1,400
Agua Tibia	CNF	Bigcone Douglas-fir forests; chaparral	1990	517
King Creek	CNF	Cuyamaca cypress forests	1991	992
Organ Valley	CNF	Engelmann oak woodlands	1991	562
American Canyon	LPNF	Coulter pine woodlands; montane chaparral	1991	1,529
Black Butte	LPNF	Knobcone pine forests; montane chaparral	1998	940
Cone Peak Gradient	LPNF	Mixed evergreen forests	1987	2,736
San Emigdio Mesa	LPNF	Singleleaf pinyon-dwarf oak woodlands	1998	1,239
Cahuilla Mountain	SBNF	Coulter pine forests; black oak woodlands	1989	861
Fisherman's Camp	SBNF	Coulter pine forests	1998	412
Hall Canyon	SBNF	Mixed conifer forests	1990	671
Horse Meadow	SBNF	White fir forests	1998	935
Millard Canyon	SBNF	Interior live oak forests	1991	785

Although the first forest plans recommended a number of RNAs, for a variety of reasons not all were established. As a result, many have been carried forward into this analysis, along with a number of new recommended RNAs that have been identified since the completion of the first forest plans (see table 323: Candidate RNAs on the four southern California National Forests). A number of RNAs have Establishment Records (the final stage in area designation) prepared for them, so that if they are recommended in the selected alternative, they would quickly become established. New RNAs that are recommended in the selected alternative but lack ecological surveys and/or establishment records would become eligible for inclusion in the RNA system once these steps have been completed.

Descriptions of these areas and summaries of their special values are in Appendix A of Part 2 of the forest plans.

Table 323. Candidate RNAs on the four southern California National Forests

Name	Forest	Target Element	Acres
Guatay Mountain	CNF	Tecate cypress woodlands	1,337
Upper San Diego River	CNF	Coastal sage scrub	5,965
Viejas Mountain	CNF	Gabbro plant endemics; chamise chaparral	3,182
Pleasants Peak	CNF	Knobcone pine, serpentine plant species	661
Big Pine Mountain	LPNF	Mixed conifer forests; montane chaparral	3,258
Cobblestone Mountain	LPNF	Bigcone Douglas-fir forests	2,224
Sawmill Mountain	LPNF	Jeffrey pine forests, singleleaf pinyon woodlands	3,451
Valley Oak	LPNF	Valley oak woodlands/California annual grasslands	108
White Mountain	LPNF	Bigcone Douglas-fir forests	2,104
Ventana Cones	LPNF	Santa Lucia fir/canyon live oak forests	2,220
Arrastre Flat	SBNF	Pebble plains plants	1,451
Blackhawk*	SBNF	Carbonate plants	2,805
Broom Flat	SBNF	Singleleaf pinyon woodlands and forests	417
Cleghorn Canyon	SBNF	Southern sycamore-white alder riparian woodlands	1,662
Wildhorse Meadow	SBNF	Meadow plants	1,255

Note there are no cRNAs identified for the ANF.

*1,561 acres are on NFS land; this balance is BLM land.

Recommended Research Natural Areas by Alternative

Alternative 6 recommends carrying forward the greatest number of RNAs (15 areas totaling 32,100 acres) and would therefore make the greatest contribution to the Region 5 and national RNA network.

Alternative 3 recommends the next highest number of new RNAs (14 encompassing 29,876 acres), and Alternative 2 proposes 12 with 28,798 acres. Alternative 4a recommends 10 areas with 18,731 acres, and Alternative 4 recommends five areas at 11,141 acres. Alternative 1 recommends four areas at 9,037 acres, and Alternative 5 recommends only one new RNA with 2,220 acres.

Recommended RNAs by alternative are given in the following tables (see also the Land Use Zone maps in the Atlas and the Part 2:Strategy documents for each of the southern California national forests:

Table 318. Cleveland National Forest Candidate Research Natural Areas Recommended By Alternative

cRNA Name	Acres	Primary Vegetation Type	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
San Diego River	5,965	Inland coastal sage scrub	N	5,965	5,965	N	N	5,965	N
Viejas Mountain	3,182	Chamise chaparral	N	3,182	3,182	N	N	3,182	N
Guatay Mountain	1,337	Tecate cypress	N	1,337	1,337	N	N	1,337	N
Pleasants Peak	661	Knobcone pine, serpentine vegetation	N	N	661	N	N	661	N

Table 319. Los Padres National Forest Candidate Research Natural Areas Recommended By Alternative

cRNA Name	Acres	Primary Vegetation Type	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Big Pine Mountain	3,258	Southern California mixed conifer forest	3,258	3,258	3,258	3,258	N	3,258	3,258
Cobblestone Mountain	2,224	Bigcone Douglas-fir	N	N	N	N	N	2,224	N
White Mountain	2,104	Bigcone Douglas-fir	N	2,104	2,104	2,104	N	2,104	2,104
Sawmill Mountain	3,451	Jeffrey pine forest	3,451	3,451	3,451	3,451	N	3,451	3,451
Ventana Cones	2,220	Santa Lucia fir/canyon live oak forest	2,220	2,220	2,220	2,220	2,220	2,220	2,220
Valley Oak	108	Valley oak woodland	108	108	108	108	N	108	108

Table 320. San Bernardino National Forest Candidate Research Natural Areas Recommended By Alternative

cRNA Name	Acres	Primary Vegetation Type	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Cleghorn Canyon	1,662	Western sycamore-alder riparian forest	N	1,662	1,662	N	N	1,662	1,662
Arrastre Flat	1,451	Pebble plains	N	1,451	1,451	N	N	1,451	1,451
Broom Flat	417	Singleleaf pinyon/California juniper woodland	N	N	417	N	N	417	417
Wildhorse Meadow	1,255	Wet meadow vegetation	N	1,255	1,255	N	N	1,255	1,255
Blackhawk*	2,805	Carbonate plants	N	2,805	2,805	N	N	2,805	2,805

*1,561 acres are on NFS land; the balance is BLM land.

Table 321. Summary of Candidate Research Natural Areas Recommended By Alternative

	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Candidate RNAs	4	12	14	5	1	15	10
Total Acres	9,037	28,798	29,876	11,141	2,220	32,100	18,731

No RNAs were recommended for the Angeles National Forest in this round of planning.

The Forest Service Manual describes activities that are generally not compatible or allowed within RNAs. All alternatives would prohibit these activities in established and recommended RNAs, except where one or more (e.g., grazing, prescribed fire) is needed to maintain the vegetation types for which the RNA was established. In the initial screening process for RNAs, current and future management options for each area were considered. This screening removed from further consideration areas where significant conflicts with existing management were identified.

Appendix G. Special Interest Areas

Special Interest Areas Background and Status

Background

Special interest areas (SIAs) may be designated by the Regional Forester to protect and manage for public use and enjoyment those special recreation areas with scenic, geological, botanical, zoological, paleontological, archaeological, or other special characteristics or unique values. They may include the protection and management of threatened, endangered, or sensitive species and other elements of biological diversity; recreation or cultural significance; or historic importance. The size of individual special interest areas varies depending on the site-specific resource values and management emphasis. SIA management focuses on allowing natural conditions to prevail as long as they do not threaten resources, public safety, and properties outside the SIA boundary. Habitat or vegetation management manipulation is permitted to more closely approximate (or restore) natural conditions and processes or for protection of threatened, endangered or sensitive species. Unlike research natural areas or experimental forests, the Forest Service encourages public use and enjoyment of each administratively designated SIA up to the level that will ensure protection of the special values for which the area was established. A management plan is written and interpretive services to enhance the visitor's understanding and appreciation of the area's special features are offered. Occupancy and use of the area's resources are allowed to the extent they neither interfere with the primary values for which the area was established nor negatively affect the visitor's experience.

Status

There are 15 special interest areas established by the original land management plans or earlier (see table 338: Established Special Interest Areas). Twenty-seven additional areas with special and unique resources are proposed for designation under some alternatives:

Table 338. Established Special Interest Areas

Name	Forest	Values	Acres
Devil's Punchbowl	ANF	Geological - folds, faults, plate tectonics, cuetas, hogbacks	1,255
Mt. Baden-Powell	ANF	Botanical - ancient limber pine, subalpine plants	252
Mt. San Antonio	ANF	Botanical - alpine and subalpine plants	164
Guatay	CNF	Botanical - Tecate cypress	180
West Fork of San Luis Rey River	CNF	Zoological - wild trout	218
Cuesta Ridge	LPNF	Botanical - Sargent cypress, Coulter pine, and 12 percent of Forest's sensitive plants	1,304
Southern Redwood	LPNF	Botanical - Southernmost stand of natural redwoods	17
Alder Creek	LPNF	Botanical - Sargent cypress with rare endemics	23
Lion Den Springs	LPNF	Botanical - Sargent cypress grove with endemics	81
Dry Lakes Ridge	LPNF	Botanical - Disjunct relic plant species within small-enclosed basin	406
Mount Pinos Summit	LPNF	Botanical - Limber pine stands, Forest's sole example of southern California subalpine forest	453
Quatal Canyon	LPNF	Geological - Unique eroded badland topography with Miocene vertebrate fossils	469
Sierra Madre	LPNF	Cultural Resources	5,592

Name	Forest	Values	Acres
Black Mountain	SBNF	Scenic	6,605
North Baldwin Lake and Holcomb Valley	SBNF	Botanical, Zoological and Historical	10,790
TOTAL			27,809

Table 339. Angeles National Forest Candidate Special Interest Areas

Name	Values	Acres
Aliso-Arrastre (North, Middle and South)	Heritage - numerous prehistoric archaeological sites	6,639 - 16,907*
Liebre Mountain	Botanical - oak woodlands and meadows	9,521

* Acres varies by alternative

Table 340. Cleveland National Forest Candidate Special Interest Areas

Name	Values	Acres
Chiquito Springs	Botanical - deergrass meadow, oak riparian	738
Filaree Flat	Botanical - montane meadow (including Cuyamaca meadowfoam), pebble plain	440
Pine Mountain	Botanical - desert riparian communities	273

Table 341. Los Padres National Forest Candidate Special Interest Areas

Name	Values	Acres
Foster Bear Ponds	Botanical - montane vernal pool in PY type, adjacent areas contain flax-loke monardella and pine-green gentian	197
Camatta	Botanical - Camatta Canyon amole and dwarf calycadenia	55
Milpitas	Cultural	9,933
Mono Basin	Botanical, Zoological - riparian ecosystem with arroyo toad, red-legged frog, least Bell's vireo, willow flycatcher	3,078 - 8,610*
Spring Lake	Botanical - rare example of montane pond containing wetland herbs and willow thickets	31

* Acres vary by alternative

Table 342. San Bernardino National Forest Candidate Special Interest Areas

Name	Values	Acres
Arrastre Creek	Botanical-carbonate endemic plants, vegetation transition zone; Zoological- Hepatic tanager, calliope hummingbird, grey flycatcher, Lewis' woodpecker, deer; Cultural	742 – 3,551*
Bear Creek	Botanical, Scenic, Zoological - Wild trout, bigcone Douglas fir, alder, canyon live oak, very scenic	2,523
Cactus Flat	Botanical - Joshua trees	4,141

Name	Values	Acres
Cajon Pass	Cultural, Geological, Zoological - Fault escarpments, Lost Lake sag pond, native fish, riparian T&E (LBV, WIFL), historic peregrine nest, raptors, deer,	178
Children's Forest	Recreational and Scenic - working forest offering high quality youth development and conservation education programs; visitor center, trail, Keller Peak Fire Lookout, Snow Valley Ski Area, scenic views	3,395
Coxey Creek	Scenic, Zoological - key fawning area, scenic vistas	3,047
Deep Creek	Cultural, Scenic, Zoological - Wild trout, nesting golden eagle, rubber boa, spotted owl, flying squirrel, deer, bear, mtn lion, scenic vistas	3,772
Fish Creek Meadows	Botanical, Zoological - aspen, meadow	718
Garner Valley	Botanical, Historical, Zoological - Key deer habitat and fawning area, mtn lion, bobcat, golden eagle, raptors, black-shouldered kite, pinyon jay, endemic plants, Echinocereus engelmannii, Pinus quadrifolia, Quercus palmeri	2,464
Green Valley Canyon	Botanical, Zoological – spotted owl	881
Holcomb Creek	Botanical, Scenic, Zoological – wild trout, fawning area, meadow key deer summer range, riparian annuals & wildflowers, scenic view sheds, one of wildest areas in northern San Bernardino Mtns	4,267
May Van Canyon	Botanical, Zoological – spotted owl	1,323
San Andreas	Geological	4,955
San Jacinto River	Cultural, Scenic, Zoological – wild trout, spotted owl, bald eagle, deer, mtn lion. Cahuilla passageway, outstanding view sheds	1,220
Upper Santa Ana River	Scenic, Cultural, Zoological – trout, spotted owl, rubber boa, golden eagle, bear, deer, significant watershed values,	5,326
Siberia Creek	Cultural, Zoological – trout	835
Sugarloaf Meadow	Botanical, Zoological – unarmored 3-spine stickleback	197
Wild Horse Meadow	Botanical, Zoological – montane meadow	1,255

Some SIAs have overly dense forest stands due to past fire suppression and fire exclusion. Also, recent drought conditions and bark beetle epidemics has led to high levels of tree mortality, especially in the San Bernardino, San Jacinto, Santa Rosa and Palomar Mountains. Some of the candidate SIAs are located within this drought-stricken area, including most of those on the San Bernardino National Forest. There are known insect and/or disease problems in some of the candidate SIAs at this time, including all within the drought-stricken San Bernardino National Forest. Exotic plant and animal life is a problem in some candidate SIAs. Most candidate SIAs have documented occurrences of natural fire. Prescribed fire may be permitted to mimic a natural fire regime or to reduce unnatural fuel loads, except where such burning would threaten other values for which the SIA was proposed.

Some SIAs are located near, adjacent to or within a designated or candidate wilderness, wild and scenic river, or research natural area. For example, a portion of the candidate Deep Creek SIA overlaps with the candidate Deep Creek Wild and Scenic River. Wilderness, wild and scenic river, research natural area and SIA management are usually compatible since both emphasize allowing natural conditions to prevail.

Although mining is a permitted use in SIAs, there has been little minerals-related activity in the candidate SIAs. Oil and gas leasing is minimal since the candidate SIAs are within areas that have been identified as having no or low potential for oil and gas development.

Livestock grazing exists in some candidate SIAs, most notably Garner Valley. This use would be allowed to continue as long as the use does not become a threat to the values for which the SIA was proposed.

The Forest Service specifically manages and markets SIAs for public use, enjoyment and education. During the initial screening process, levels and types of recreation use were reviewed for each candidate SIA to ensure that current and expected future uses were within the allowable levels and compatible with the goals of SIA management.

A full description of these areas and their special values can be found in Appendix A of Part 2 of the forest plans in the Special Designation Overlays section for each national forest.

Recommended Special Interest Areas by Alternative

Special interest areas are protected and managed to maintain the unique features that lead to their designation and for public use and enjoyment. The tables at the end of this section (tables 337 and 451 through 454) display the acres (by national forest and alternative) included in each proposed SIA (also see Land Use Zone maps).

Alternatives 3 and 6 provide for the widest variety of new SIAs and types. Alternatives 2 and 4 propose a few additional SIAs and Alternatives 1 and 5 propose no new SIAs. No alternative recommends a reduction in size or the elimination of any existing SIAs.

Special interest areas will be managed according to a management plan written for them after they are designated. The forest plan revision may also place some constraints on activities and uses within SIAs to protect them from direct effects of certain management activities. Activities and use would be allowed to the extent they neither interfere with the primary values for which the area was established nor negatively affect the visitor's experience. Therefore, each SIA would be managed somewhat differently and receive varying direct and indirect effects from each resource values. Human manipulation may be employed to maintain the ecosystem or unique features for which the SIA was established or to re-establish more natural ecological processes. Vegetation, habitat, soil productivity, water quality, and ecological processes will remain in a relatively natural condition. An emphasis is often placed on public information, interpretation and education. During the initial candidate SIA screening process, future management options for each area were considered. This initial screening process removed from further consideration areas where significant conflicts with existing management were identified. Some of the changes that occur in SIAs would result from natural disturbance events such as fire, insects and disease.

Table 337. Summary of Candidate Special Interest Areas Recommended By Alternative

	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Total	0	13	27	10	7	27	14
Total Acres	0	34,809	68,655	28,521	4,812	77,740	53,289

Table 451. Angeles National Forest Candidate Special Interest Areas by Alternative

Name	Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Aliso-Arrastre (Middle and North)	6,639 - 16,906	N	Y 6,640 acres	Y 7,850 acres	Y 6,640 acres	N	Y 16,935 acres	Y 7,850 acres
Liebre Mountain	9,521	N	N	Y	N	N	Y	Y

Table 452. Cleveland National Forest Candidate Special Interest Areas by Alternative

Name	Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Chiquito Springs	738	N	Y	Y	Y	Y	Y	Y
Filaree Flat	440	N	Y	Y	Y	Y	Y	N
Pine Mountain	273	N	Y	Y	Y	Y	Y	Y

Table 453. Los Padres National Forest Candidate Special Interest Areas by Alternative

Name	Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Foster Bear Ponds	197	N	Y	Y	Y	Y	Y	Y
Camatta	55	N	Y	Y	Y	Y	Y	Y
Milpitas	9,933	N	Y	Y	Y	N	Y	Y
Mono Basin	3,078 - 8,610	N	Y 3,078 acres	Y 3,078 acres	Y 3,078 acres	Y 3,078 acres	Y 3,078 acres	Y 8,610 acres
Spring Lake	31	N	N	Y	N	Y	Y	N

Table 454. San Bernardino National Forest Candidate Special Interest Areas by Alternative

Name	Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 4a
Arrastre Creek	742 – 3,551	N	N	Y 742 acres	N	N	Y 742 acres	Y 3,551 acres
Bear Creek	2,523	N	Y	Y	N	N	Y	N
Cactus Flat	4,215	N	N	Y	N	N	Y	N
Cajon Pass	359	N	N	Y	N	N	Y	N
Children's Forest	3,395	N	Y	Y	Y	N	Y	Y
Coxey Creek	3,047	N	Y	Y	N	N	Y	N
Deep Creek	3,772	N	Y	Y	Y	N	Y	N
Fish Creek Meadows	718	N	Y	Y	N	N	Y	N
Garner Valley	2,464	N	N	Y	N	N	Y	N
Green Valley Canyon	881	N	N	Y	N	N	Y	N
Holcomb Creek	4,267	N	N	Y	N	N	Y	N
May Van Canyon	1,323	N	N	Y	N	N	Y	N
San Jacinto River	1,220	N	N	Y	N	N	Y	N
Upper Santa Ana River	5,326	N	N	Y	N	N	Y	N
San Andreas	4,955	N	N	N	N	N	N	Y
Siberia Creek	835	N	N	Y	N	N	Y	N
Sugarloaf Meadow	197	N	N	Y	N	N	Y	N
Wild Horse Meadow	1,255	N	N	Y	N	N	Y	N

Appendix H. Santa Rosa and San Jacinto Mountains National Monument

National Monument Background and Status

National monuments are areas created by law that have unique ecological, geologic, historical, prehistorical, cultural and scientific interest. The Santa Rosa and San Jacinto Mountains National Monument (SRSJMNM) was established in the Act of October 24, 2000. This Public Law 106-351 webpage link is: www.ca.blm.gov/pdfs/palmsprings_pdfs/PL_106-351.pdf.

The Act created a 271,400 acre national monument, encompassing 89,500 acres of Department of Interior Bureau of Land Management (BLM) lands, 65,000 acres of Department of Agriculture Forest Service lands, 19,800 acres of Agua Caliente Band of Cahuilla Indians lands, 12,900 acres of California Department of Parks and Recreation lands, 28,900 acres of California Department of Fish and Game lands, 7,500 acres of other State of California agencies lands, and 38,500 acres of private land. As the only land management designation of this type in the southern California national forests, the Santa Rosa and San Jacinto Mountains National Monument is nationally significant.

This bipartisan legislation established the first congressionally designated national monument and the first monument to be jointly managed by the BLM and the Forest Service. It affects only federal lands and federal interests located within the established boundaries. The BLM and the Forest Service jointly manage these federal lands within the national monument in consultation and cooperation with the Agua Caliente Band of Cahuilla Indians, other federal agencies, state agencies, and local governments to protect this national monument's biological, cultural, recreational, geological, educational, scientific, and scenic values.

The Santa Rosa and San Jacinto Mountains National Monument is located in southern California, approximately 100 miles east of Los Angeles with a dramatic landscape rising abruptly from near sea level in the valley to the San Jacinto Peak at 10,834 feet. Five distinct "life zones," from Sonoran Desert to Arctic-Alpine, provide exceptionally diverse biological resources and nationally important landscapes and resources. The boundary runs northwest to southeast along the edge of the Coachella Valley (a broad, low elevation valley comprising the westernmost limits of the Sonoran Desert). Nine cities (Palm Springs, Cathedral City, Rancho Mirage, Indian Wells, Palm Desert, La Quinta, Indio, Coachella and Desert Hot Springs) lie within this valley--an area of rapid growth and increasing urbanization. The SRSJMNM provides a picturesque backdrop and an abundance of recreation opportunities that are important regional economic resources for the Coachella Valley and mountain communities.

Current and potential important issues in the SRSJMNM mirror some of the key issues in the forest plan revision and include forest health and fire management and anticipated increased recreation demand. The current drought and stand density condition has led to extensive conifer forest mortality within portions of the higher elevations of the SRSJMNM. Wildfires (usually human-caused) occasionally burn through these mountains. The primary management action for wildfire is suppression, which has partially led to vegetation conditions different from those resulting from natural processes. Fuel buildups are now high in several areas, which may increase the potential of severe fires there. Vegetation type-conversion is also a concern in places. The SRSJMNM does not have a wildland fire management plan that would allow wildland fire to play a more natural role. In addition, increased visitation to the SRSJMNM may occur now that it has been designated a national monument. This would create some management challenges, especially providing adequate recreation opportunities while balancing the need for natural and cultural resource protection. A strong conservation education program would help address these concerns.

The presence of the SRSJMNM helps to provide a major public land base in rapidly urbanizing southern California. Therefore, retention of the SRSJMNM ensures both public enjoyment and continued protection and maintenance of natural and cultural resource protection. Natural disturbance processes

will be a factor in many of the changes that occur within the National Forest System lands within the SRSJMNM, as much of this land base is designated wilderness. The national monument legislation specifies that most uses and activities currently occurring there will continue.

The management plan for the SRSJMNM provides strategic and operational guidance and is tiered to the forest plan revision. A local advisory board was chartered to help prepare and implement the Monument Management Plan, ensuring continued grassroots interest, support and involvement. The link to the Environmental Impact Statement and management plan is:

www.ca.blm.gov/palmsprings/santarosa/management_plan.html.

No additional national monuments are being proposed in the forest plan revision, nor is any reduction in size or elimination of the existing SRSJMNM. Because direction for this national monument is detailed in law, regulation, agency policy and in a specific management plan, administration will not vary by alternative.

Appendix I. Oil and Gas Potential

ANGELES, CLEVELAND AND SAN BERNARDINO NATIONAL FORESTS

OIL AND GAS POTENTIAL

REASONABLE FORESEEABLE DEVELOPMENT SCENARIO

Prepared by The United States Department of Agriculture

Forest Service

Region 5-California

S. California Province

With the assistance of

The United States Department of the Interior

Bureau of Land Management

California State Office

Bakersfield Field Office

I. Background

II. Regulatory Framework

III. Geologic Setting

IV. Mineral Potential

V. Estimated Effects of Leasing

VI. Conclusions

Attachment – Ventura Basin Province (013)

I. Background

The four southern California national forests (the Angeles National Forest (ANF), the Cleveland National Forest (CNF), the Los Padres National Forest (LPNF), and the San Bernardino National Forest (SBNF)) are undergoing a revision of their land management plans. Planning for mineral resource management is an integral part of a successful forest plan. Mineral exploration and development is driven by natural settings, such as the location of favorable geologic formations, and supply-demand market economics.

Existing land management plans (LMPs) for the four southern California national forests (completed between 1986 to 1989) did not adequately address oil and gas mineral resource leasing. Federal regulations require that new forest plans include the preparation of a leasing analysis for National Forest System lands not withdrawn for wilderness or other purposes. The required leasing analysis is currently being completed for the Los Padres National Forest (LPNF) in an Environmental Impact Statement (EIS) separate from this analysis. This document will address oil and gas potential and administrative availability of lands for leasing, under the 1920 Minerals Leasing Act, in the current LMP revision process for the Angeles, Cleveland and San Bernardino National Forests.

The Forest Service completed this report with the assistance of the United States Department of the Interior (USDI), Bureau of Land Management (BLM), who provided expertise in the development of the analysis parameters and the geologic data to support this reasonable foreseeable development scenario. During the development of the Oil and Gas Leasing Environmental Impact Statement (EIS) for the Los Padres National Forest, the BLM worked closely with the Forest Service to develop the reasonable foreseeable development scenario for the alternatives analyzed in the EIS.

II. Regulatory Framework

The Federal Onshore Oil and Gas leasing Reform Act of 1987 and its implementing regulations (36 CFR 228.102) directed the Forest Service to identify lands with potential for oil and gas leasing, and to determine which of those lands are suitable for lease under what conditions. Specifically, 36 CFR 228.102(c) directs the Forest Service to identify lands in which there may be an interest in oil and gas development. In addition, for planning analysis purposes, the Forest Service is required to estimate the type and amount of future leasing and its general effects on other resources.

This Reasonably Foreseeable Development Scenario (RFDS) describes the general geological setting and the potential for oil and gas leasing and drilling activities in the next 15 years on public mineral estate lands within the three southern California national forests (see the Los Padres National Forest exception). It also provides a range of expected impacts on the land as a result of exploration, drilling, and development operations. This information is required by regulation at 36 CFR 228.102 as part of the environmental analysis process for making a leasing decision, and by planning regulations (36 CFR 219.22).

The RFDS discusses the potential for oil and gas occurrence based on available geologic information. It also addresses the potential for oil and gas interest based on historical drilling trends, economic trends, and other socio-economic factors. The assessment of development potential includes a drilling activity forecast, which is an estimate of the type and amount of drilling and development activity, which might take place. The RFDS also provides information for the analysis of effects of the forest plan and leasing decisions on other resources managed by the national forests. It is a general representation to the public and the decision maker of the potential effects of a leasing decision.

Note: This RFDS does not address surface disturbance related to pre-lease seismic exploration activities. Seismic notices of intent (NOIs) may be processed without having to have a lease.

A. Los Padres National Forest Exception

As of the date of this publication, the Los Padres National Forest (LPNF) is in the process of completing a forest-wide leasing analysis on the public lands within the national forest boundary (the 36 CFR 228.102 (e) decision). A draft Environmental Impact Statement (DEIS) was made available for public review in late 2002. A final EIS was signed in 2005. Consequently, this RFDS, and the LMP revision will not analyze oil and gas leasing for the LPNF but will incorporate by reference the environmental documents completed to support the leasing analysis for the LPNF. The Forest Supervisor's leasing decision will be included as an amendment to the LPNF revised LMP.

B. Why prepare this document

This analysis provides the basis for the assessment of the effects of potential mineral activities on other resources, under each of the proposed management alternatives in the EIS. The analysis must project the type/amount of post-leasing activity that is reasonably foreseeable as a consequence of conducting a leasing program consistent with that described in the proposal and for each alternative. In addition, the Forest Service must analyze the reasonable foreseeable impacts of post-leasing activity projected.

C. Decision to be made using this RFDS document

The purpose of this document is to support the determination of administrative availability of National Forest System lands for leasing under the 1920 Minerals Leasing Act and amendments. According to 36 CFR 228.102 (d), upon making the southern California national forests-wide leasing decisions, the Regional Forester will notify the BLM as to the acreage and the locations of the lands deemed administratively available for leasing.

Although lands may be identified as available for leasing, a more site-specific analysis will be required before a parcel is offered for lease. It should be noted that no oil and gas-related surface disturbance is being authorized as a result of this RFDS. Any disturbance would be subject to the NEPA compliance.

III. Geologic Setting

The exploration for commercial accumulations of oil and gas revolves around attempting to locate a porous and/or fractured, permeable "reservoir." This reservoir is rock that may contain oil and gas that have migrated into the reservoir from "source rocks." Even if source rocks are present and oil and gas have migrated to the reservoir, more is required for the area to be prospective for oil and gas. It has to have been prevented from migrating further to shallower depths by the presence of impermeable formations and structures such as faults above the reservoir rocks, and the presence of a "trapping mechanism" along the oil and gas "migration path." Traps block the movement of oil and gas migrating through porous and permeable rock. If all of the factors are present and the timing is correct, oil and/or gas may be present in sufficient quantities to support exploration and potential development.

A discussion of the geology of the Ventura Basin Province is shown as Attachment 1.

A. Angeles National Forest

Portions of the Angeles National Forest near Interstate 5 are within the Ventura Basin - a known geologic area with a long history of commercial oil and gas developments, mostly to the west in Ventura and Santa Barbara Counties. Oil-related historic activities within the Angeles National Forest include leasing, drilling, road building.

B. Cleveland National Forest

No known hydrocarbon productive areas exist on public lands within the boundaries of the Cleveland National Forest. Although there may have been leasing, there has been no known history of applications for permits for oil and gas within the Cleveland National Forest.

C. San Bernardino National Forest

No known oil and gas activities have occurred on the San Bernardino National Forest.

IV. Mineral Potential

Analysis Parameters

The key elements that determine the amount of surface disturbance required for a specific lease area are: availability of existing roads, slopes and terrain, environmentally-sensitive areas, surface/subsurface well location, complexity and size of the geologic structure, and accuracy and availability of surface and subsurface information.

It is estimated that an average of up to seven acres of surface disturbance per drill hole is expected for access roads, well pad, and support facilities such as tank batteries and pipes (see table 2 below).

New roads might have to be constructed, and existing roads upgraded, to support drilling equipment and vehicles. A typical 16-20 ft. driving surface would be required in addition to disturbance for cut and fill slopes.

Drill pad and support facilities (such as central collection and tank batteries) could disturb and occupy about one acre per well. A typical pipeline would require a 10 ft. wide corridor for each pipeline.

The exact number and location of specific wells that a lessee would likely to drill is, for the most part, subject to considerably uncertainty. All estimates given below were made as the result of evaluations of available geologic information and past drilling activity data. Additional support data is available at the Angeles National Forest Supervisor's Office.

High Potential

1) Inclusion in a USGS play, or 2) demonstrated existence of (a) source rock, (b) thermal maturation, and (c) reservoir strata exhibiting permeability and/or porosity, and traps.

Low or No Potential

Specific indications that one or two of (a), (b), or (c) may not be present, or demonstrated absence of (a), (b), and (c) that precludes the occurrence of oil and gas.

The following table displays the number of acres of potential oil and gas occurrence on the southern California national forests:

Table I-1 – Classification of Oil and Gas Potential

National Forest	Acres Total	Acres Withdrawn	Potential for Oil & Gas Occurrence Acres (high)	Potential for Oil & Gas Occurrence Acres (low or none)
Angeles	662,983	394,547 (60%)	51,200	217,236
Cleveland	420,878	87,865 (20%)	0	333,013
San Bernardino	665,752	147,430 (22%)	0	518,322

A. Angeles National Forest

A total of 51,200 acres have been identified as high potential for oil and gas occurrence. Within this area, it is reasonable to assume that a range between 5-25 wells could be drilled in the next 15 years, with associated disturbance of 35-175 acres, split about 60/40 between long-term disturbance (2+ years) and short-term (< 2 years). There would also be an estimated 100 acres of transitory (very short-term) disturbance related to seismic exploration. All seismic operations would be required to adhere to standards to minimize impacts where feasible. This would include requirements to follow existing roads, hand carry lines, etc., where practical.

It can reasonably be expected that most (or all) wells would be drilled in the areas identified as high potential. However, all areas not identified as withdrawn or otherwise unavailable are potentially available for leasing.

For purposes of this RFDS, the Ventura Basin was all considered to be "high potential." A portion of the Basin (onshore portion) is within the Angeles National Forest, so the reserves in this RFDS are those that would be attributed to that portion of the Basin within the national forest. Approximately 2 percent of the Basin is within the Angeles National Forest boundary, so approximately 2 percent of the total undiscovered reserves in the Basin are projected to be from National Forest System land.

B. Cleveland National Forest

No areas have been identified for oil and gas potential by the BLM or the USGS. However, one to two speculative wells could be drilled in areas not considered by conventional wisdom to be "prospective." It is unlikely that such wells would be productive, and the estimated 7-14 acres of associated disturbance would likely be short-term.

C. San Bernardino National Forest

No areas have been identified for oil and gas potential by the BLM or the USGS. However, one to two speculative wells could be drilled in areas not considered by conventional wisdom to be "prospective." It is unlikely that such wells would be productive, and the estimated 7-14 acres of associated disturbance would likely be short-term.

Table I-2 - Oil and Gas Potential Acreage & Anticipated Range of Wells & Disturbance

National Forest	Acreage High Potential	# of Wells Anticipated*	Potential Acreage of Surface Disturbance**
Angeles	51,200	5-25	35-175
Cleveland	0	0-2	0-14
San Bernardino	0	0-2	0-14

*Estimation based on BLM's estimate of # of acres of high potential divided by the total number of acres in the Ventura Basin times the total number of wells expected to be drilled in the entire basin.

**Includes an estimate of six acres per well for new road construction and access in areas where little or no existing roads and trails exist. Includes an estimate of one acre disturbance for drill pad, tank batteries, pipelines and other support facilities.

V. Estimated Effects of Leasing

Effects of mineral and energy activities on other resources stem from issues relating to access, exploration and development of the subsurface mineral resource. Surface disturbing activities associated with accessing (road building), exploring (drilling) and development (drilling and facilities) of the mineral resource result in impacts to the land and the resources.

Lands that contain mineral and energy resources also contain physical, biological, recreational and cultural resources. At times, objectives for mineral resource management conflict with objectives for other resource management.

Even though each oil and gas well, by itself, may not cause substantial impacts to the land and the resources, the increased number of wells in any given area adds additional cumulative impacts to the land and on the environment.

Table I-3 – Angeles National Forest Oil and Gas Potential Leasing Acreage Anticipated Long-term and Short-term Specific Disturbance

Disturbance Type	Long-Term (> 2yrs)	Short-Term (0-2yrs)
Producing Wells*: Well Pad and Facilities Site (1 acre footprint per site) (#/acres)	7/7	0
Dry Holes** (1 acre footprint per site) (#/acres)	0/0	5/5
Access Roads*** (miles/acres)	7/42	5/30
Seismic Activities**** (miles/acre)	0	100/100
Reserves***** (MBO/MMCF) 2656/3200	n/a	n/a
Total	49	135

Based on 51,200 acres of high potential area located on public lands within the

Based on 51,200 acres of high potential area located on public lands within the Angeles National Forest.

*Producing wells = .0014 wells/acre & .00100 acre disturbance/acre

**Dry holes=.00010well/acre & .00070 acre disturbance/acre

***A typical 16-20 ft driving surface would be required in addition to disturbance for cut and fill slopes.

****Seismic= 8' wide path = 1 acre/mile.

*****Each producing well makes 332 thousand barrels of oil (MBO) & 400 million cubic feet (MMCF) of gas.

Table I-4 – Cleveland National Forest Anticipated Long-term and Short-term Specific Disturbance

Disturbance Type	Long-Term (> 2yrs)	Short-Term (0-2yrs)
Producing Wells*: Well Pad and Facilities (#/acres)	0/0	0/0
Dry Holes** (#/acres)	0/0	2/2
Access Roads*** (miles/acres)	0/0	2/12
Seismic Activities**** (miles/acres)	0/0	0/0
Reserves***** (MBO/MMCF) 0/0	n/a	n/a
Total	0	14

Table I-5 – San Bernardino National Forest Anticipated Long-term and Short-term Specific Disturbance

Disturbance Type	Long-Term (> 2yrs)	Short-Term (0-2yrs)
Producing Wells*: Well Pad and Facilities (#/acres)	0/0	0/0
Dry Holes** (#/acres)	0/0	2/2
Access Roads*** (miles/acres)	0/0	2/12
Seismic Activities**** (miles/acres)	0/0	0/0
Reserves***** (MBO/MMCF) 0/0	n/a	n/a
Total	0	14

The Forest Service and the BLM work together to review any proposed lease/drilling application and conduct the necessary environmental reviews. Any identified impacts to the land and resources require the development of mitigation measures to reduce or eliminate such impacts. These mitigation measures (often incorporated as lease stipulations at the time the tract is offered for leasing) become an integral part of the permit conditions of approval. The public will have an opportunity to provide comment on proposals that are subject to the National Environmental Policy Act's (NEPA's) disclosure and compliance process.

VI. Conclusions

The Reasonable Foreseeable Development Scenario is the same across all of the alternatives because all alternatives have the same exact area classified as high potential (51,200 acres of high potential area with the Angeles National Forest). A total surface disturbance of 84 acres (49 long-term, 35 short-term) could be expected from 12 wells (5 dry holes, 7 producers). This number could reasonably range between 35-175 acres and 5-25 wells. An additional short-term disturbance of 100 acres could be expected from seismic operations. Total reserves are estimated to be 2.7 MMBO and 3.2 BCF.

According to BLM, the Cleveland and the San Bernardino National Forests do not contain areas with high potential for oil and gas development, although one or two wells may be drilled in each of these national forests. These wells could not reasonably be expected to find any reserves.

The Los Padres National Forest is not included in this analysis.

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Bain, Desmond, The Reasonable future Development Scenario for the Los Padres National Forest, USDA-Forest Service, August 1993.

The oil and gas potential maps used for this RFDS were prepared in consultation with the BLM as well as data from the USGS National Assessment of U.S. Oil and Gas Resources (1995) and the Los Padres Draft EIS (2002).

Attachment 1—VENTURA BASIN PROVINCE (013)

By Margaret A. Keller

Introduction

The Ventura Basin Province of southern California consists of the portion of the Western Transverse Ranges that is bounded approximately on the north by the Santa Ynez and Big Pine Faults, on the northeast and east by the San Andreas Fault, on the west by the 3-mi limit of State waters, and on the south by the Santa Monica-Malibu Coast fault system and the 3-mi limit of State waters of the Santa Barbara-Ventura coastal area. The province is as much as 54 mi wide and 183-mi long. It covers approximately 4,327 sq mi on land, including the Northern Channel Islands, and contains an additional 1,018 sq mi of State waters, including the area around the islands.

The province contains a Cretaceous to Pleistocene, mostly marine, sedimentary section in a major fold and thrust belt that began developing during the late Pliocene. The Ventura Basin is the onshore part of the main structural downwarp that formed during this deformation; its founded offshore extension is the modern Santa Barbara Basin. All of the sedimentary section is productive somewhere in the province, and most reservoirs are sandstones with favorable porosity and permeability. The major ones, of Pliocene and Miocene age, comprise 75-80 percent of the on-land plus State waters production in the province. In general, most traps are anticlinal, modified to some degree by faults and with significant stratigraphic influence.

Six plays are described for the province: the Paleogene–Onshore Play, (1301); the Paleogene–Offshore State Waters Play (1311); the Neogene–Onshore Play (1302); the Neogene–Offshore State Waters Play (1312); the Pliocene Stratigraphic Play (1303); and the Cretaceous Play (1304). Undiscovered petroleum resources are assessed for the Paleogene and Neogene Plays (resource for the Pliocene Play is added to the Neogene Play), but the Cretaceous Play, which was determined to have a low probability of occurrence of an accumulation > 1 MMBO or 6 BCFG was not quantitatively assessed. The State waters and onshore areas of these plays are the subject of this report.

The first field discovered in the Ventura Basin was Santa Paula in 1861. Since then, approximately 96 oil and gas fields (depending on how accumulations are grouped) have been discovered, 66 of which have ultimate recovery greater than 1 MMBO or 6 BCFG. Nine gas fields are present along the Santa Barbara coast, but most of the province contains oil accumulations localized along several major anticlinal trends. The most productive is the Rincon trend with several very large Pliocene accumulations. The largest is made up of three giant (> 100 MMBO) fields, Ventura Avenue, Rincon, and San Miguelito, whose combined ultimate recovery is estimated at 1,530 MMBO, 2.65 TCFG, and 153 MMBNGL. Several other important anticlinal trends also contain giant fields. The most recent new field discovery in the onshore area of the province is Rincon Creek found in 1982. New drilling has mainly focused on locating new pools and extending existing fields, with very minor exploration outside of existing fields. In the offshore, where most exploration has focused since the late 1950s and early 1960s—although limited by state and federal leasing regulations—the most recent new field discovery in State waters is Santa Clara, found in 1971. Cumulative production in the province through 1990 is approximately 2,640 MMBO, 4.64 TCFG, and 160 MMBNGL.

Acknowledgements

Helpful reviews of preliminary play concepts were provided by Tom Hopps, Thane McCulloh, William Bazeley, Duane Cavit, James Galloway, and Gary Huftile. Scientists affiliated with the American Association of Petroleum Geologists and from various State geological surveys contributed significantly to play concepts and definitions. Their contributions are gratefully acknowledged.

Conventional Plays

1301. PALEOGENE-ONSHORE PLAY

1311. PALEOGENE-OFFSHORE STATE WATERS PLAY

Description: The Paleogene Play consists primarily of oil and associated gas accumulations, with condensate, in structural and combination traps. Stratigraphic traps are rare. Non-associated gas is also produced from nine fields in State waters and along the Santa Barbara coast. Reservoirs are sandstones of Paleocene to early Miocene age. Excluding non-prospective and basement areas of the eastern part of the province, the play area includes almost the total remaining province, with the assumption that a Paleogene and (or) lower Miocene section has some potential if present at depths greater than about 20,000-25,000 ft. in the Santa Clara Trough.

Reservoirs: Important reservoirs are sandstones of the nonmarine, Eocene to early Miocene Sespe Formation in the areas both north and south of the Santa Clara Trough. The Sespe commonly has good to excellent reservoir properties and is up to 7,000 ft. thick in the subsurface. Another important reservoir, commonly coproduced with the Sespe, is the overlying shallow-marine Vaqueros Formation. The Vaqueros is up to 300 ft. thick, has excellent reservoir properties in places, and is overlain by the Rincon Shale—an excellent regional seal. Limited porosity and permeability data from Vaqueros and Sespe reservoirs show a range of 10-30 percent porosity and 18-900 mD permeability. Average reservoir thickness ranges from 50-3,000 ft., and the average depth to the top of reservoirs is 100-11,500 ft. Other reservoirs of minor importance are the Matilija Formation, Coldwater Sandstone, and Llajas Formation of Eocene age. Paleocene clastic rocks south of the Santa Clara Trough are also minor reservoirs.

Source rocks: Source rocks are probably mainly the organic-rich mudrocks of the Rincon Shale and Monterey, Modelo, Sisquoc, and Santa Margarita Formations. However, carbon isotopic data suggest that another hydrocarbon source (probably Eocene marine shale) is present in the western coastal area of the play. Marine shale of the Paleocene-Eocene Santa Susana Formation and the Eocene Llajas Formation also appear to be suitable sources south of the Oak Ridge Fault where oil is produced from Sespe sandstones and interbedded sandstones in the Llajas. Most hydrocarbons in the play were probably generated from Miocene source rocks in the Santa Clara Trough and other deep areas. Migration from Miocene and possibly older source rocks probably took place after the onset of late Pliocene compressional tectonics, which formed most of the structural traps. Burial reconstructions north of the Santa Clara Trough suggest that Eocene and older source rocks could have generated hydrocarbons before and during the early Miocene, before the 90° Miocene rotation of the province to its present orientation. South of the trough along the Oak Ridge Trend, recent reconstructions by Hathorn (1992) show that the Paleocene and Eocene Santa Susana "Shale" entered the early phase of generation on the crest of South Mountain during the late Pliocene and the main phase of generation on the flanks of South Mountain during the Pleistocene.

Traps: Traps are mainly anticlines and faulted anticlines. South of the Oak Ridge Fault along the Oak Ridge Trend, the major producing trend in the play, anticlinal accumulations in Eocene and Oligocene sandstones are found in numerous oil fields. Other important anticlinal trends parallel the Santa Barbara coast. Additional traps include a homocline with tar seal and other permeability barriers, significant unconformities, and closure created by faults and dip reversals. Marine shale units within the Paleogene and Neogene sequences all provide seals. The areas of maximum production range from 50 acres at the Oat Mountain field to 2,970 acres for the Sespe field. Many fields produce from multiple stacked reservoirs in more than one formation accounting for large volumes of petroleum production from relatively small land areas.

Exploration status: Since the discovery of the Sespe field in 1887, some areas of the play have been extensively explored, but not the rugged mountainous areas of the north or areas where a thick overlying Neogene sequence is productive. Of the 32 significant oil and gas fields in the play (> 1 MMBO or 6

BCFG), 10 also produce from the Neogene section and six are gas fields. The largest oil accumulation in the South Mountain area has produced 124 MMBO from reservoirs in this play; the largest gas field, Molino Offshore, has produced 258 BCFG. The average size of the gas fields is 94 BCFG. Cumulative production in the play through 1990 is 525 MMBO, 1.23 TCFG, and 33.3 MMBNGL. In the onshore the average field size is approximately 28 MMBOE. In the offshore it is 17 MMBOE.

Resource potential: The play has a good to medium potential for undiscovered oil and gas. Although not well documented province wide, in many places the presence of laumontite as a pore-filling (especially in the pre-Miocene section) is an important limiting factor for reservoir quality. Potential of the play is thought to be good in the relatively unexplored offshore extensions of major structural trends. In the Santa Clara Trough, possible reservoir rocks may be too deep to retain favorable porosity and permeability; however, this potential remains untested. Undiscovered recoverable resources probably remain in the onshore on the north and south margins of the Santa Clara Trough. Relatively unknown potential remains in poorly known deeper structures that formed prior to Miocene rotation of the province.

1302. NEOGENE–Onshore Play

1312. NEOGENE–Offshore State Waters Play

The Neogene Play is characterized by oil and associated gas accumulations in structural and combination traps in clastic reservoirs of early Miocene to Pleistocene age. Discovered accumulations in purely stratigraphic traps are rare. The play covers Å 130 mi of the east-west length of the province. The north and south boundaries of the play (in some places a fault) are defined by the extent of the Neogene sequence in the subsurface. The northern boundary is approximately equivalent to the southern edge of the Santa Ynez and Topa Topa Uplifts. The southern boundary (along the north side of the Santa Monica Mountains) is equivalent to the southern boundary of Neogene Basin remnants.

Reservoirs: Major reservoirs are unlithified turbidite sands of the Pliocene and Pleistocene Pico Formation. Other important reservoirs are in the Miocene and lower Pliocene section, predominantly marine sandstone but also fractured, fine-grained rocks of the Rincon, Monterey, Modelo, Sisquoc, and Santa Margarita Formations. Fractured, fine-grained siliceous rocks of the Monterey Formation are important reservoirs in only a few fields in the onshore and State waters. Average reservoir thicknesses range from less than 100 ft. to as much as 5,000 ft. Average depth to the top of reservoirs is also variable, ranging from about 150 ft. to 14,250 ft. Data on discovered reservoirs indicate a range of 14-35 percent porosity and 13-5,500 mD permeability for the Pico and younger reservoirs, and 11-27 percent porosity and 7-480 mD permeability for the Monterey and Modelo Formations.

Source rocks: Potential source rocks are organic-rich mudrocks of Miocene and early Pliocene age, including the Rincon, Monterey, Modelo, Sisquoc, Santa Margarita, and possibly part of the lower Pico Formations, although the Monterey Formation is thought to be the main source. The Monterey contains excellent oil-prone source rocks with total organic carbon contents Å 3-5 percent on average, but as high as 23 percent in some beds. Organic matter is marine and mixed marine-continental in origin. Most of the oil was probably generated in the Santa Clara Trough and other deep areas of the play where the Pliocene and Pleistocene sequence reaches a thickness of approximately 20,000 ft. Migration probably took place, for the most part, after the onset of late Pliocene compressional tectonics, which formed most of the structural traps in the play.

Traps: Traps are mainly anticlinal with associated faulting, but stratigraphy is an important control in the traps of numerous fields. The area of maximum production ranges from 50 acres at Weldon Canyon to 3,410 acres at the Ventura Ave. field, with multiple stacked reservoirs in many fields. Purely stratigraphic traps are rare. One of the potentially important targets for stratigraphic trapping (Pliocene turbidite sand units in the flat to gently dipping central Santa Clara Trough) is described as a separate play but is assessed with the total Neogene Play because of the small amount of resource discovered to date.

Adequate seals are provided by impermeable shales and fine-grained rocks in the Neogene sequence. The deepest well in the basin (drilled in the onshore Rincon Trend) reached a total depth of 21,500 ft., bottoming within the upper Miocene section. Thickness of the lower Miocene to Pleistocene sedimentary sequence varies, with the maximum estimated to be greater than 26,000 ft.

Exploration status: The play has been extensively explored since 1861 when the Santa Paula field was discovered. In the onshore part of the play, 33 oil fields produce solely from the Neogene. Eight have both Paleogene and Neogene production. Oil fields average approximately 66 MMBOE. The largest accumulation (at 1,871 MMBOE) is the combined Ventura Ave., San Miguelito, and Rincon fields. Cumulative production through 1990 is 1,890 MMBO, 3.23 TCFG, and 157 MMBNGL. In the State offshore, the three oil fields producing in this play average 73 MMBOE; cumulative production through 1990 is 188 MMBO, 183 BCFG, and 1.14 MMBNGL.

Resource potential: The future resource potential of the play is estimated to be very good, especially in the relatively unexplored offshore extensions of major structural trends in the play and also beneath the hanging wall of the San Cayetano Thrust Fault. Undiscovered accumulations might also be found along the well-explored major structural trends in the onshore, particularly adjacent to the Santa Clara Trough and in the eastern Ventura Basin. Relatively little known potential exists for targets deeper than 15,000 ft., as well as for prospects dominated by diagenetic and stratigraphic trapping mechanisms. However, within the Santa Clara Trough, stratigraphic potential may be good in sand units within the upper and lower Pliocene section, as found at Fillmore and also Saticoy as well as other areas in the footwall of the Oak Ridge Fault.

1303. Pliocene Stratigraphic Play

The Pliocene Stratigraphic Play (which is both on land and in State waters) is characterized by stratigraphically trapped oil and associated gas accumulations in turbidite sand units of the Pliocene and Pleistocene Pico Formation. Discovered accumulations in pure stratigraphic traps are rare in this province. The play covers an elongate area 35 mi east to west and 10 mi north to south. The play is bounded on the north by the San Cayetano Fault and on the south by the Oak Ridge Fault and occupies the relatively flat to gently dipping portion of the central Santa Clara Trough or syncline between these faults.

Reservoirs: Major discovered reservoirs are unlithified turbidite sands of the middle part of the Pico Formation of Pliocene and Pleistocene age found in two zones of the Fillmore field. Other possible reservoirs might be in the lower Pliocene section, predominantly marine sandstone. Average reservoir thicknesses range from 35 to 50 ft., with net sand thicknesses up to 80 ft. Average depth to the top of reservoirs ranges from about 13,750 to 13,900 ft. Data on reservoirs of the Fillmore field indicate a range of 20-22 percent porosity and 50-150 mD permeability for the Pico. Other Pico and younger reservoirs in structural traps have a range from 14 to 35 percent porosity and 13 to 5,500 mD permeability. The sediments deposited in this area created one of the thickest known sections of Pliocene and Pleistocene sediment, 15,000-20,000 ft.

Source rocks: Potential source rocks are organic-rich mudrocks of Miocene and early Pliocene age, including the Monterey, Modelo, Sisquoc, Santa Margarita, and possibly part of the lower Pico Formations, although the Monterey Formation may be the main source. The Monterey contains excellent oil-prone source rocks with total organic carbon contents 3-5 percent on average, but as high as 23 percent in some beds. Organic matter is marine and mixed marine-continental in origin. The oil was generated in the Santa Clara Trough where the Pliocene and Pleistocene sequence reaches a thickness of as much as approximately 20,000 ft. Migration in the trough probably took place close to the time of, and also after, the onset of late Pliocene compressional tectonics, which formed most of the structural traps in the province, including possibly the faulting of already formed stratigraphic traps that are now in the Pliocene succession of the footwall of the Oak Ridge Fault.

Traps: Trapping is dominantly stratigraphic by pinch-out of sand bodies. The most important potential targets are Pliocene turbidite sand units in the flat to gently dipping central Santa Clara Trough. At Fillmore, the area of maximum production is 500 acres; both larger and smaller trap sizes are possible. Adequate seals are provided by impermeable shales and fine-grained rocks in the Neogene sequence. The deepest well in the basin reached a total depth of 21,500 ft., bottoming within the upper Miocene section.

Exploration status and resource potential: The play has been explored a good deal since the discovery of the Fillmore field in 1954. Except for several accumulations (the Saticoy field, the Bridge pool at South Mountain, and pools at Bardsdale and Shiells Canyon) in the footwall of the Oak Ridge Fault which may have been stratigraphically controlled before the onset of late Pliocene deformation, no other fields like Fillmore have been found. Therefore, this play is described separately, but assessed with the total Neogene Play because of the small amount of resource that has been discovered after a good deal of exploration on land. There has not been any offshore exploration for the play by drilling in State waters. Cumulative production at Fillmore through 1990 is 13.2 MMBO, 19.5 BCFG, and 600 MBNGL; ultimate recovery is projected to 28.2 MMBOE. The future resource potential of the play may be good, especially in the unexplored areas of the Santa Clara Trough and possibly in its offshore extension. There may also be potential in the footwall of the San Cayetano Thrust Fault. Relatively little is known of the potential for targets deeper than 15,000 ft. 1304.

Cretaceous Play (Hypothetical)

The Cretaceous Play consists of oil and associated gas accumulations, but also hypothetical dry gas accumulations, in structural, stratigraphic, and combination traps. The two fields in the play, now abandoned, have together produced less than a million barrels of oil; however, gas production is known from a test within the play area. Reservoirs are sandstones of Late Cretaceous age located south of the Santa Clara Trough in areas where the top of the Upper Cretaceous is thought to be present at depths of 15,000 ft. or less, and also where the thick Miocene volcanic succession is absent. The Cretaceous section north of the Santa Clara Trough has tested minor oil and gas in a few places; however, it is believed to have very low porosity and permeability (and therefore potential) due, in part, to laumontite formation. Therefore, this area is not included in the play.

Reservoirs: Reservoirs are marine sandstones of Late Cretaceous age. Oil production in the two discovered fields is from depths to the top of reservoirs of 4,150 and 7,200 ft., in intervals 500 and 200 ft. thick respectively. The Upper Cretaceous section consists of sandstone, conglomerate, and shale. It ranges in thickness to greater than 6,500 ft. in the areas of the Simi Uplift and the Santa Monica Mountains and is likely to be greater than 5,000 ft. thick in much of the Ventura Basin (Nagle and Parker, 1971). Few data are available, but reservoir quality of the Cretaceous section in the play area is expected to be quite variable and generally poor in most areas. However, in the vicinity of the discovered fields near the Simi Uplift, Nagle and Parker (1971) describe the Cretaceous rocks as having "attractive reservoir potential, comparable to those of younger rocks which yielded commercial production elsewhere."

Source rocks: Possible source rocks include marine shales in the Cretaceous section, which are hypothesized to be gas prone due to a greater proportion of continentally derived plant material in the organic matter. Little is known of their potential for generating oil or gas south of the Santa Clara Trough; however, a number of analyses north of the Santa Clara Trough (Frizzell and Claypool, 1983) characterize this organic matter as having poor capacity for petroleum generation. Other potential sources are marine shales within the Paleocene, Eocene, and Miocene sections, which may have sourced the Cretaceous rocks during favorable structural juxtaposition. Recent reconstructions by Hathon (1992) show that the Eocene and Paleocene Santa Susana "Shale" south of the Santa Clara Trough at South Mountain became mature beginning during the late Pliocene, coincident with the formation of structural traps during the most recent tectonism. The Miocene Monterey Formation is believed by many to be the

main source of the oil in most fields south of the Santa Clara Trough, oil generation having begun in the trough during the Pliocene and then migration proceeding since that time.

Traps: Traps may be structural or stratigraphic or a combination of both. Structural traps may have formed during tectonism since the late Pliocene or in earlier periods of deformation, which are not as well understood. More study of Cretaceous depositional systems is necessary to understand the potential for stratigraphic trapping in the play. The size of discovered traps (20 and 30 acres) is small, but larger traps may be present. Marine shale units within and overlying the Cretaceous, as well as other permeability barriers such as unconformities, could provide seals.

Exploration status: Two oil fields have been discovered in the play in the area of the Simi Uplift. The Horse Meadows field was discovered in 1952 and abandoned in 1966 after producing 136,556 bbl of oil and 86,746 MCFG. The Mission field produced 536,621 bbl of oil and 301,411 MCFG from Cretaceous sandstone as well as a pool in Pliocene sand between its discovery in 1953 and abandonment in 1977. Oil and gas in shows and production tests are reported for several wells throughout the province.

Resource potential: This play has not been well explored because of the many favorable prospects in the overlying Tertiary section. Also, pre-Pliocene structures (and therefore trapping) are not well understood in most of the province because of the strong overprint by younger tectonism. However, undiscovered resources probably remain south of the Santa Clara trough. Most certainly laumontite formation and other factors will preclude favorable porosity and permeability in some areas; however, porosity and permeability are favorable in the area of existing fields, and the possibility of finding other favorable areas cannot be ruled out until more exploration is done in this play.

Unconventional Plays

There are no unconventional plays described in this province report. However, unconventional plays listed in the surrounding provinces may include parts of this province. Individual unconventional plays are usually discussed under the province in which the play is principally located.

References

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- Nagle, H. E., and Parker, E. S., 1971, Future oil and gas potential of onshore Ventura Basin, *in* Cram, I. H., ed., Future petroleum provinces of the United States--Their geology and potential: American Association of Petroleum Geologists, Memoir 15, vol. 1, p. 254-297.

Appendix J. Glossary

A

Abiotic: Not involving or produced by organisms.

Acre-foot (Ac-ft): The amount of water covering an area of one acre to a depth of one foot.

Adaptive management: A process for implementing management decisions that requires monitoring of management actions and adjustment of decisions based on past and present knowledge. Adaptive management applies scientific principles and methods to improve management decisions incrementally as experience is gained in response to new scientific findings and societal changes.

Adverse Effects (Heritage Resources): Any effect on a heritage resource that would be considered harmful to those characteristics that qualify the property for inclusion in the National Register of Historic Places.

Aerosol: Can be either wet or dry small particles in the atmosphere, also known as “particulate matter.”

Aesthetics: The study of science, or philosophy dealing with beauty in nature with judgments concerning beauty. In scenery management, it describes landscapes that give visual and sensory pleasure.

Aggradation: A raise of elevation in a streambed, caused by sediment supply in excess of sediment-transport capacity.

Aggregate: Crushed rock material, used for road surfacing.

Air Pollution Control District (APCD): Is a regional government bureau responsible for attainment and management of air quality standards through permitting and regulating emission source.

Air Quality Attainment Plan (AQAP): Equivalent to Air Quality Management Plan, which outlines rules and regulations for improving the quality of air on the region to reach an attainment status (in attainment of standards).

Air Quality Management Plan (AQMP): Outlines rules and regulations for improving the quality of air on the region to reach standards.

Air Quality Standard: The specified average concentration of an air pollutant in ambient air during a specified period at or above which level the public health may be at risk, equivalent to Ambient Air Quality Standard.

Airtanker: A fixed wing aircraft that delivers fire retardant along the fire edge.

Algae: A collective term for several taxonomic groups of primitive chlorophyll-bearing plants, which are widely distributed in fresh, salt water and moist lands. This term includes the seaweeds, kelps, diatoms, pond scum and stoneworts.

Allotment: An area designated for use by a prescribed number of cattle or sheep under a specific plan of management.

Alternative, Preferred Alternative, Selected Alternative: One option for meeting the purpose and need for a proposed action (e.g., forest plan revision). Alternatives are described and analyzed in the Environmental Impact Statement (EIS).

The **Preferred Alternative** is the alternative recommended for implementation at the draft forest plan phase based on the evaluation completed in the planning process; it is not a decision. The **Selected Alternative** is the alternative chosen by the Regional Forester for implementation in the forest plan based on the evaluation completed in the planning process. This decision is documented in the **Record of Decision (ROD)**.

Ambient Air: Any unconfined portion of the atmosphere; the outside air.

Ambient Air Quality Standard (AAQS): Federal and state measure of the level of air contamination that is not to be exceeded in order to protect human health.

Ambient Noise Level (ANL): Noise from all sources near and far. ANL constitutes the normal or existing level of environmental noise at a given location.

Animal Unit Month (AUM): The amount of feed or forage required by one mature (1,000 pound) cow or the equivalent for one month.

Appropriate Management Response (AMR): Any specific action suitable to meet Fire Management Unit (FMU) objectives. Typically, the AMR ranges across a spectrum of tactical options (from monitoring to intensive management actions). The AMR is developed by the FMU strategies and objectives identified in the Fire Management Plan.

Aquatic habitat: Water within a lake, river, stream or other body of water that supports plant and animal life.

Aquifer: Water-bearing rock formation or other subsurface layer. A body of rock that contains sufficient saturated permeable material to conduct groundwater and to yield significant quantities of water to wells and springs.

Arroyo: A stream channel or gully in arid country, usually with steep banks and dry much of the time.

Attribute: An inherent landscape characteristic, trait or quality.

Average: As a measure, the sum of the measurements (over a specified period) divided by the number of measurements.

B

Backfire: A fire set along the inner edge of a fireline to consume the fuel in the path of a wildland fire and/or change the direction of force of the fire's convection column.

Background: The distant part of the landscape area located from 4 miles to infinity from the viewer.

Badlands topography: Arid landscapes characterized by intricate, sharp erosion sculptures of highly erosive soft sedimentary rocks with a very fine drainage network and little to no vegetative cover.

Barranca: A ravine caused by rain, or a watercourse.

Basal area: The cross sectional area of a tree measured at breast height (4.5 feet or 1.37 meters above the ground) by use of a wedge prism or

calculated from the diameter expressed in either square feet per acre or square meters per hectare. A way of measuring how much a site is occupied by trees.

Basal area increment (BAI): Increase in tree basal area during a specified period usually over one year or 10 years. BAI may be calculated on per tree, per acre, or hectare basis.

Baseline: A set of existing conditions against which change is to be described and measured.

Bedrock: The solid rock that underlies loose material, such as soil, sand, clay, or gravel.

Berm: Native or aggregate material built up adjacent to a traveled roadway. Reasons for installation vary and can include surface water control, hazard mitigation (in lieu of guardrail) or temporary stockpiling of slide debris.

Best Available Control Technology (BACT): An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to refutation under the Clean Air Act, which would be emitted from any proposed major, new, or modified stationary source.

Best Environmental Design Practices: Environmentally sustainable landscape design solutions that improve ecosystem health and the quality of the outdoor recreation experience.

Best Management Practice (BMP): A practice, or a combination of practices, that is determined by the State of California after problem assessment, examination of alternative practices, and appropriate public participation to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.

Biogeochemical cycles: Nutrient and carbon flows and pools between biotic (living, biological) and abiotic (non-living, physical and chemical) elements in an ecosystem.

Biological diversity (biodiversity): The variety and abundance of life and its processes, including all living organisms, the genetic differences among them, and the communities and

ecosystems in which they occur. Biological diversity also refers to the composition, structure, and function of species and habitats and their interactions.

Biomass: The amount and type of organic matter that is contained within a given area; the total weight of all living organisms in a biological community.

Biota: Living organisms; all the plant and animal life of a particular region.

Bitumens: Any of various mixtures of hydrocarbons (as tar) often together with their nonmetallic derivatives that occur naturally or are obtained as residues after heat-refining natural substances (as petroleum); specifically: such a mixture soluble in carbon disulfide.

Blading: A type of road surfacing activity to improve drivability.

Brackish: Pertaining to water; generally estuarine in which salinity ranges from 0.5 to 17 parts per thousand by weight.

Bridge: A road or trail structure including supports erected over a depression or an obstruction, such as water, a road, a trail, or railway and having a deck for carrying traffic or other loads.

Brushing: The act of removing brush along the side of the roadway to improve visibility.

Burning index: An estimate of the potential difficulty of fire containment as it relates to the flame length at the most rapidly spreading portion of a fire's perimeter.

C

Cambial tissues: Active growth tissues of vascular plants.

Candidate Species: A plant and animal species that, in the opinion of the U.S. Fish and Wildlife Service, may become endangered or threatened. These are documented in a current Federal Register Notice of Review for threatened or endangered listing.

Canopy: The part of any stand of plants represented by the crowns or upper layers.

Capital Investment Program (CIP): Forest Service infrastructure construction and reconstruction funding program.

Carbon Monoxide (CO): A colorless, odorless, toxic gas produced by incomplete combustion of carbon in fossil fuels.

Catastrophic wildland fire: An especially intense and widespread fire that usually but not always occurs in national forests outside the historical range of variability in terms of national forest structure and forest fuels due to fire suppression.

Cenozoic: The youngest geologic era, ranging from present to 66 million years ago.

Channel Lining: Artificial hardening of the sides and/or bed of a stream channel to prevent erosion. Concrete, soil cement and rock riprap are typical channel linings.

Chaparral: Dense vegetation consisting mainly of thick-leaved, evergreen shrubs and small trees characteristic of middle elevations in California and the southwestern United States.

Characteristic: Qualities that constitute a character or that characterizes a landscape, a distinguishing trait, feature, quality, uniqueness or attribute.

Chip seal: Thin layer of hard surface material that includes an emulsified material that adheres the material's particles to each other and the road surface it is placed on.

Coarse filter management: Land management that addresses the needs of all associated species, communities, environments and ecological processes in a land area (contrast to fine-filter management).

Coarse woody debris: Woody biomass that consists of snags (standing dead trees), logs and larger diameter branches (2.5 cm) on the forest floor.

Coastal Block: Geologic term describing area adjacent to the coast, which may be faulted or fractured.

Coastal Zone: That land and water area of the state of California extending seaward including all offshore islands and extending inland 1,000 yards from the mean high tide line of the ocean.

Code of Federal Regulations (CFR): The codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. The Code is divided into 50 titles that represent broad areas subject to regulation.

Cogeneration: Production of electricity using waste heat (as in steam) from an industrial process or the use of steam from electric power generation as a source of heat.

Commensurate: Equal in measure or extent

Community Noise Equivalent Level (CNEL): Averaging of noise levels on a measurement scale of decibels that increases the actual noise measurement, to account for an increased sensitivity to noise during late evening, nighttime and morning hours (the increments are 5 dB from 7 to 10 pm and 10 dB from 10 pm to 7 am).

Community Protection Area: Open and collaboratively developed plan by local and state government representatives, in consultation with federal agencies and other interested parties. Includes hazardous fuel reduction and treatment of structural ignitability.

Concern Level: The classification of travel routes or use areas based on the public's concern over the alterations in the landscape from those viewpoints. There are three Concern Levels representing degrees of scenery importance: (1) High, (2) Moderate, and (3) Low.

Concessionaire: A special-use permit holder who provides goods and services primarily at Forest Service developed recreation sites (excluding ski areas).

Condition Class 1: Fire regimes are within a historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within the historical range.

Condition Class 2: Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). This results in moderate changes to one or more of the following: fire size, intensity and severity, and

landscape patterns. Vegetation attributes have been moderately altered from their historical range.

Condition Class 3: Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.

Confine a Fire: The least aggressive wildland fire suppression strategy, typically allowing the wildland fire to burn itself out within determined natural or existing boundaries, such as rocky ridges, streams, and possibly roads.

Conifer: Cone bearing tree.

Connectivity (habitat): the degree to which the structure of a landscape helps or hinders the movement of animal or plant species. A landscape is considered "well connected" when organisms (or natural processes) can readily move among or through habitat patches over the long-term.

Conservation Education: Communication strategies used to develop public awareness, appreciation and support for conservation issues and policies. Includes interpretation, environmental education and visitor information.

Contain a Fire: A moderately aggressive wildland fire suppression strategy, which can reasonably be expected to keep the fire within established boundaries of constructed firelines under prevailing conditions.

Control a Fire: The most aggressive wildland fire suppression strategy. Complete control line around a fire, any spot fire, and any interior island to be saved: burn out any unburned area adjacent to the fire side of the control lines, and cool down all hot spots that are immediate threats to the control line, until the lines can reasonably be expected to hold under foreseeable conditions.

Corridor: Elements of the landscape that connect similar areas, such as riparian areas.

Crossdrains: Drainage structure (culvert) located outside of a stream channel.

Crown fire: A fire that burns in the forest canopy. 'Passive' crown fires are those that are supported by surface fires with occasional burning of overstory trees, while 'active' crown fires are those that burn through overstory trees with no associated surface fire.

Cryptogamic crust: A thin crust on top of the soil made up of mosses, lichens, algae, and bacteria, known collectively as cryptogams. Cryptogams function as soil builders, forming a spongy layer that helps protect soil from erosion, absorbs moisture, and provides nitrogen and other nutrients for plant growth. Also referred to as cryptobiotic or microbiotic crusts.

Cultural landscape: A geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes (and they are not mutually exclusive): historic sites, historic designed landscapes, historic vernacular landscapes and ethnographic landscapes.

Cultural use: Access to areas with significant pre-historical, historical, or contemporary Native American use.

Cutbank: A bank on the uphill side of a road that is a result of cutting into the hillside to create a road surface.

Cyclonic: A large air mass (in the northern hemisphere) that circulates counterclockwise.

D

Decibel (dB): Logarithmic unit which describes the wide range of sound intensities to which the human ear is sensitive.

Decibel-A-Weighted (dBA): Decibel unit scale that is modified to better represent the relative insensitivity of the human ear to low-pitched sounds.

Decommissioning: Permanently closing a road to vehicular use and left in a hydrological maintenance free condition. Decommissioning will include activities such as water barring, out

sloping, re-contouring, decompaction of road surface, removal of drainage structures, and road barricades as needed.

Defensible Space: An area either natural or manmade where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to act as a barrier between an advancing wildland fire and resources or lives at risk. In practice, defensible space is generally defined as an area of 30 feet or more around a structure that is cleared of flammable brush or vegetation or other fuels.

Degradation: Lowering of streambed elevation, caused by sediment-transport capacity in excess of the sediment supply. Degradation can be long-term (after the passage of many stream flows) or short-term (caused by a single stream flow).

De minimis: The least scope, requirement, or interpretation of a law or ruling.

Demographic: Relating to the dynamic balance of a population, especially with regard to density and capacity for expansion or decline.

Dendrochronology: The science of dating tree rings. Dendrochronology relies upon cross dating; the process of cross-matching in-common patterns of variability in ring features that are controlled by climate variability to discover calendar dates for individual growth rings.

Department of the Interior (DOI): A federal department responsible for administration of public lands not managed by other federal departments.

Depauperate: Term used to describe a biological community lacking many species found in similar habitat elsewhere.

Design Capacity: The maximum theoretical amount of use a developed recreation site was built to accommodate. This is usually expressed in persons at one time.

Desired Condition: A desired state for an ecosystem or ecosystem component that is based on its relationship with other interacting components. Usually implies a long-term goal for management.

Desired Landscape Character: Appearance of the landscape to be retained or created over time

recognizing that a landscape is a dynamic and constantly changing community of plants and animals; the combination of landscape design attributes and opportunities, as well as biological opportunities and constraints.

Developed Recreation: This type of recreation is dependent upon facilities provided to enhance recreation opportunities in concentrated-use areas. Examples include: campgrounds and picnic areas. Facilities in these areas might include: roads, parking lots, picnic tables, drinking water, and toilets.

Developed Recreation Sites: Relatively small, distinctly defined areas where facilities are provided for concentrated public use, such as campgrounds, picnic areas and swimming beaches.

Development Scale:

- **Development Scale 1:** Minimum site modification. Rustic or rudimentary improvements designed for protection of the site rather than comfort of the users. Use of synthetic materials excluded. Minimum controls are subtle. No obvious regimentation. Spacing informal and extended to minimize contacts between users. Motorized access not provided or permitted.
- **Development Scale 2:** Little site modification. Rustic or rudimentary improvements designed for protection of the site rather than comfort of the users. Use of synthetic materials avoided. Minimum controls are subtle, little obvious regimentation. Spacing informal and extended to minimize contacts between users. Motorized access provided or permitted, primary access over primitive roads. Interpretive services are informal, almost subliminal.
- **Development Scale 3:** Site modification moderate, facilities about equal for protection of natural site and comfort of users. Contemporary, rustic design of improvements is usually based on use on native materials. Inconspicuous vehicular traffic controls usually provided. Roads may be hard surfaced and trails

formalized. Development density is about three family units per acre. Primary access may be over high standard roads. Interpretive services informal but generally direct.

- **Development Scale 4:** Site heavily modified. Some facilities designed strictly for comfort and convenience of users. Luxury facilities not provided. Facility design may incorporate synthetic materials, extensive use of artificial surfacing of roads and trails. Vehicular traffic control is usually obvious. Development density is about three to five family units per acre. Plant materials are usually native. Interpretive services are often formal or structured.
- **Development Scale 5:** High degree of site modification. Facilities mostly designed for comfort and convenience of users and usually include flush toilets; may include showers, bathhouses, laundry facilities and electrical hook-ups. Synthetic materials commonly used. Formal walks or surfaced trails. Regimentation of users is obvious. Access is usually by high-speed highways. Development density is five or more family units per acre. Plant materials may be foreign to the environment. Formal interpretive services usually available. Designs formalized and architecture may be contemporary. Mowed lawns and clipped shrubs are not unusual.

Diameter at breast height (DBH): Tree diameter at a standard height of 4.5 ft (1.37 meters) above the ground surface.

Diffusion model: A model calculated by formula, graphs, or computer that estimates the dilution of an air pollutant as it is carried downwind. The models are based on physical principles with various simplifications to aid solvability.

Dike: A long mass of igneous rock that cuts across a structure of adjacent rock.

Direct attack: Any treatment of burning fuel: by wetting, smothering or chemically quenching the fire or by physically separating the burning from unburned fuel.

Dispersed Campsite: An individual/family-sized campsite that has a general size of about 500-1,000 square feet. It includes a hardened area around a fire pit, a barren area, and/or user-constructed facilities.

Dispersed Recreation: Those national forest-oriented outdoor recreation activities that normally take place outside of sites or areas that are developed or managed to concentrate recreation use. Dispersed recreation activities may require facilities for safeguarding visitors, protecting resources and enhancing the quality of visitor experiences.

Distance Zones: Landscape areas denoted by specified distances from the observer. Used as a frame of reference in which to discuss landscape attributes or the scenic effect of human activities in a landscape.

Distinctive Landscape: This corresponds to Scenic Attractiveness Class A. Areas where landform, vegetation patterns, water characteristics and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern and balance.

Disturbance: Any event that alters the structure, composition, or function of an ecosystem, including grazing, human trampling, logging, foraging by wildlife, wind, flood, insects, disease, and fire.

Disturbed land: Land where the surface soils or rock or vegetation has been altered.

Diversion dips: Constructed ditches or low spots across the road that allow water to flow across the road during high flow events or in the event that the culvert was plugged to allow the water to be diverted back into the channel (also drivable dips).

Diversion potential: The potential for water to be diverted away from drainage structures; causing erosion of road surface.

Duff: Tree, understory plant needles and leaves that constitute forest floor litter and detritus. Duff includes all soil organic horizons from undecomposed litter to very decomposed organic matter on top of mineral soil.

E

Ecological processes: The actions or events that link organisms and their environment, such as disturbance, successional development, nutrient cycling, productivity and decay.

Ecoregion: A continuous geographic area used as an ecological basis for management or planning.

Ecosystem: The dynamic complex of organisms and their environment contained within a specified area during a specified time. System elements include interaction and feedbacks between components. Ecosystems are open systems, with energy and material flowing into and out of the system.

Ecosystem function: The specific contribution of an ecosystem component to system behavior.

Ecosystem health: A condition where the parts and functions of an ecosystem are sustained over time and where the system's capacity for self-repair is maintained, such that goals for uses, values, and services of the ecosystem are met.

Ecosystem management: Scientifically-based land and resource management that integrates ecological capabilities with social values and economic relationships, to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, values, and services over the long-term.

Ecosystem processes: The mechanisms by which ecosystem components interact and change across space and through time.

Ecosystem resilience: The ability of an ecosystem to restore or maintain biodiversity, ecosystem functions, and ecological structure and processes after a disturbance. Ecosystem resilience implies a return to some stable trajectory or stable rate or type of system dynamics after system disturbance.

Ecosystem structure: The living and nonliving elements of an ecosystem and their spatial arrangement.

Ecosystem sustainability: The ability to sustain diversity, productivity, resilience to disturbance, ecosystem health, renewability and/or yield of desired values, resource uses, products, or

services from an ecosystem, while maintaining the integrity of the ecosystem over time.

Ecotone: The transition zone between two adjacent ecological communities, such as between a national forest and grassland.

Effects (on Heritage Resources): Impacts to the characteristics that qualify a heritage resource for the National Register of Historic Places. These can include alterations in location, setting, use, design, materials, feeling and association. Adverse effects include physical destruction or damage, isolation from or alteration of setting, introduction of visual, audible or atmospheric elements, physical deterioration from neglect or from any action, transfer, lease or sale.

Emission: Unwanted substances released by human activity into air or water.

Emission Control Device: Any piece of equipment that reduces the release of any air pollutant into the atmosphere; see Best Available Control Technology.

Emission Limit: Regulatory standard that restricts the discharge of an air pollutant into atmosphere.

Emission, primary: An emission that is treated as inert (non-reactive).

Emission, secondary: Unwanted substances that are chemical byproducts of reactive primary emissions.

Endangered Species: An animal or plant species designated by the U.S. Fish and Wildlife Service or National Marine Fisheries Service (NOAA Fisheries) to receive federal protection because it is in danger of extinction throughout all or a significant portion of its natural range.

Environmental Impact Report (EIR): Environmental impact assessment document prepared in accordance with the California Environmental Quality Act.

Environmental Impact Statement (EIS): Environmental impact assessment document prepared in accordance with the National Environmental Policy Act.

Estuary: Widening area at seaward end of river where its current is met and influenced by ocean tides.

Ethnobotanic: Ethnological information collected from plant types and functions.

Ethnographic landscape: A landscape containing a variety of natural and cultural resources (e.g., contemporary settlements, sacred religious sites, massive geologic structures) that are defined as heritage resources. Small plant communities, animals, subsistence and ceremonial grounds are often components of these landscapes.

Ethnohistoric: Ethnological information collected during historic times for instance that from the Spanish mission registers.

Executive Order: An order of regulation issued by the President or some administrative authority under his or her direction.

Existing Scenic Integrity: This is current scenic condition of the landscape considering previous human alterations.

Experimental Forests: National Forest System lands used for conducting research that serves as the basis for the management of national forests and grasslands.

Exponentially: Characterized by or being an extremely rapid increase.

Extreme Fire Behavior: 'Extreme' implies a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One or more of the following are usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, a strong convection column. Predictability is difficult because such fires often exercise influence on their environment and behave erratically, sometimes dangerously.

F

Fault: A fracture or zone of fractures in rock strata which have undergone movement that displaces the sides relative to each other, usually in a direction parallel to the fracture. Abrupt movement on faults is a cause of most earthquakes.

Feature: A visually distinct or outstanding part, quality, or characteristic of a landscape.

Feeder Pipeline: A short pipeline connecting two petroleum facilities or pipelines.

Fill: Material brought to the site or moved within the site to build up a road surface.

Fine filter management: Management that focuses on the welfare of a single or only a few species rather than the broader habitat or ecosystem (contrast to coarse-filter management).

Fire Behavior: The manner in which a fire reacts to the influences of fuels, weather, and topography.

Firebreak: A natural or constructed discontinuity that is utilized to segregate, stop and control the spread of fire or to provide a control line from which to suppress a wildland fire.

Fire Intensity: A general term relating to the heat energy released by a fire.

Fire Management Plan (FMP): A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational plans, such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

Fire regime: The complex of temporal and spatial patterns of fires that occur over specified periods for a given area. Parameters of fire regimes include fire frequency, the amount of area burned, season of fire occurrences, fire severity, fire predictability, and relations with driving factors, such as climate and human activities.

Fire suppression: A coordinated effort to control or put out a fire. A resource management policy initiated in the early 1900s by the U.S. Forest Service after widespread natural occurring wildland fires burned hundreds of thousands of acres of public land. Subsequently, this policy was adapted by many other land management agencies. This policy was initiated in order to preserve national forest lands and has been revised in recent decades as research has shown that fire is a necessary process in the maintenance of healthy forest ecosystems. Prescribed fire and allowing natural fires to burn when conditions are suitable are now widely used management methods.

Firing tactics: Any tactic using fire to help control fire. Backfiring is used to create a wide

line of defense at the head of the fire to halt the forward spread of a fire. Burnout is the removal of small amounts of combustible fuel between the control line and the fire perimeter.

Floodplains: Are relatively flat areas adjoining a river way; which are formed by deposition of sediments during major floods and have evolved with these episodic events; every 50-100 years segments of many of the streams are 're-set' by the large flow events that remove riparian vegetation and re-arrange sandbars, channel banks, riffles and pools.

Fluvial: Pertaining to streams or rivers.

Forb: A broadleaf plant that has little or no woody material in it.

Foreground: Detailed landscape generally found from the observer to ½ mile away (see also immediate foreground).

Forest canopy: The uppermost layer of vegetation in a national forest, which consists of the upper branches of trees.

Forest floor: The surface and ground layer beneath the forest canopy.

Forest Road Atlas: The Forest Road Atlas is a key component of the Forest Transportation Atlas and is consistent with the road inventory and includes all classified and unclassified roads on the national forest lands. The road atlas includes (at a minimum): the location, jurisdiction and road management objectives for classified roads and bridges; the location of unclassified roads and management actions taken to change the status of unclassified roads.

Forest roads: Any road wholly or partly within or adjacent to, and serving the National Forest System and which is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources.

Forest Transportation Atlas: The Transportation Atlas is the official repository of transportation facility decisions for the national forests. It contains a current record of national forest transportation facilities. The Forest Service Infrastructure Database is used for the storage and

analysis of information in the Transportation Atlas.

Forest Transportation Facility: A classified road, designated trail, or designated airfield, including bridges, culverts, parking lots, log transfer facilities, safety devices and other transportation network appurtenances under Forest Service jurisdiction that are wholly or partially within or adjacent to National Forest System lands.

Forest transportation system management: The planning, inventory, analysis, classification, record keeping, scheduling, construction, reconstruction, maintenance, decommissioning and other operations undertaken to achieve environmentally sound, safe, cost-effective, access for use, protection, administration and management of National Forest System lands.

Franciscan rocks: An association of sedimentary rocks and serpentine (including minor asbestos), outcropping along the Big Sur Coast roughly separating the Santa Ynez and San Rafael Mountains, and infamous for being landslide prone.

ft/ft: Feet of elevation change per foot of stream length.

Fuel loading: The oven dry weight of fuels in a given area, usually expressed in tons per acre.

Fuel Type: An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement, or other characteristics that will cause a predictable rate of spread or difficulty of control under specified weather conditions.

Fuelbreak: A wide strip or block of land on which the native or preexisting vegetation has been permanently modified so that fires burning into it can be more readily extinguished.

Fuels: Plants and woody vegetation, both living and dead, capable of burning.

Fuels Reduction: Manipulation, including combustion or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control. Often includes thinning and/or prescribed burning.

Fugitive Dust: Airborne pulverized soil particles that drift from an area of disturbance.

G

Gabbro: A dark colored intrusive igneous rock; the coarse-grained equivalent of basalt.

Gallons per day (gpd): A measure of flow rate.

Gallons per minute (gpm): A measure of flow rate.

Gaussian: Diffusion model named after the mathematician Gauss for representing pollution plumes. It is a statistical formulation of pollutant concentration in a downwind direction. The lateral spreading of the pollutants based on wind speed and stability of the atmosphere modified in various ways to take into account presence of an inversion layer and gravitational settling of particles in the plume.

General Scour: Degradation of a channel bed as a result of imbalance of channel sediment-transport capacity and supply during a single stream flow.

Geographic Information Systems (GIS): GIS is both a database designed to handle geographic data, as well as a set of computer operations that can be used to analyze the data. In a sense, GIS can be thought of as a higher order map.

Geologic hazard: A natural geologic feature or condition that can pose risks to humans, facilities and other resources. Examples include: landslides (many different types), earthquake fault zones, areas of subsidence, collapse or liquefaction, floods, snow avalanches, rocks containing natural toxicity, acid mine drainage, dust, coastal cliff erosion, abandoned mines, abandoned landfills, contaminated groundwater, volcanic activity, etc.

Geologic resource: A naturally occurring geologic feature of scientific, cultural, spiritual or economic value, or a human designation of such features. Examples include: fossils, caves, groundwater, minerals (including oil and gas and geothermal resources, sand and gravel, gemstones, etc.), geologic special interest areas, etc.

Geophysical Survey: General term for survey of land forms using geologist mapping, trenching, soil testing, percolation testing, echo sounding, or other techniques.

Gneiss: Banded metamorphic rock.

Grading: Road surfacing activity to improve drivability, to level or smooth to a desired gradient.

Gravities (g): Unit of acceleration equal to that produced on free falling bodies at the earth's equator.

Granite, Granitic: A coarse granular igneous rock/characteristic of granite.

Ground fire: Fire that burns in fuels on the surface of the ground, such as litter, grasses and other non-woody plants, as well as organic material in the soil layer. Propagates largely by creeping along the ground.

Ground litter: The top layer of the forest floor composed of loose debris of dead branches, twigs, and recently fallen leaves or needles altered little by decomposition.

Groundwater: Water found beneath the surface of the earth within the zone of saturation.

H

Habitat: The local environment occupied by an organism.

Habitat Conservation Plan (HCP): A document required by Endangered Species Act for an incidental take permit application; also known as a Conservation Plan.

Habitat fragmentation: The splitting or isolating of patches of similar habitat. Habitat can be fragmented by natural events or development activities.

Handcrew: A crew consisting of 10 to 20 people, whose specialty is constructing fire lines by hand.

Handline: A containment line (along the edge of a fire) built with chainsaws, and hand-tools.

Hardening (a recreation site): The protection of physical resources (usually from recreational impacts) accomplished through a variety of means (such as surfacing, graveling, adding signs, improving drainage, placing barriers or metal fire rings, etc.) that allows continued recreation use of the area.

Hazard Index: Estimated exposure to a given substance being discharged from a facility divided

by the acceptable exposure level for that substance summed over all pollutants.

Headwall area: Usually at the top of swales and small channels where the natural upslope progression of a channel ends at a steep vertical face.

Healthy ecosystem: An ecosystem in which structure and functions allow the maintenance of the desired conditions of biological diversity, biotic integrity and ecological processes over time.

Herbicides: Chemicals (pesticides) used to kill plants.

Heritage Resources: Are non-renewable evidences of our national heritage. The physical and non-physical remains of districts, sites, structures, buildings, networks, events, or objects used by humans and cultures in the past. Heritage resources are considered to be historic, prehistoric, ethnographic, architectural, or archival in nature.

Heritage Resources Consultation:

- An active, affirmative process that identifies issues and seeks input from appropriate American Indian governments, community groups, and individuals. Considers their interests as a necessary and integral part of the BLM and Forest Service decision-making process.
- The legal obligation requiring the federal government, through consultation, to consider the interests of American Indian tribes and account for those interests in the decision-making process. This legal obligation is based on laws and numerous Executive Orders and statutes.
- A process that involves discussions between a federal agency and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service under Section 7(a)(2) of the Endangered Species Act of 1973, as amended, regarding potential impacts on a species or critical habitat listed under Section 4 of the Act.

Herpetofauna: Biological term for amphibians and reptiles.

Herpetologist: Person who studies amphibians and reptiles.

High Scenic Integrity: This classification provides for conditions where human activities are not visually evident. This refers to landscapes where the valued (desired) landscape character “appears” intact. Deviations may be present but must repeat the form, line, color, texture, pattern and scale common to the landscape character. The landscape appears unaltered. This is synonymous with the Retention Visual Quality Objective under the original Visual Management System.

Historical conditions: Range of historical variation; range of the spatial, structural, compositional and temporal characteristics of ecosystem elements during a period specified to represent "natural" conditions.

Historical range of variability (HRV): The natural fluctuation of the components of a healthy ecosystem over time. A means to define the boundaries of ecosystem behavior and patterns that have remained relatively consistent over long periods. HRV is usually defined for centuries to millennia before the period of widespread human population increases and associated ecosystem changes that began in roughly the early to middle 1800s for many regions of western North America.

Historic Property: Any heritage resource that has been included or determined eligible for inclusion within the National Register of Historic Places.

Holistic: The integration of components of an ecosystem in some scale of ecological inquiry. In a holistic perspective, one ecosystem component cannot be isolated without reference to how it affects and is affected by other components in the system.

Human Dimension: An integral component of ecosystem management that recognizes people are part of ecosystems, that people's pursuits of past, present, and future desires, needs and values (including perceptions, beliefs, attitudes and values) have and will continue to influence ecosystems and that ecosystem management must include consideration of the physical, emotional, mental, spiritual, social, cultural and economic well-being of people and communities.

Hydrocarbons (HC): A mixture of hydrocarbon compounds usually referred to in the vapor state. Compounds composed principally of carbon and hydrogen; they occur in petroleum, natural gas, coal and bitumens.

- **Hydrocarbons, non-methane:** Mixture or concentration of hydrocarbons with the methane fraction ignored, one of the many formulations for reactive hydrocarbons.
- **Hydrocarbons, Reactive:** Mixture or concentration of hydrocarbons with fraction assumed to be non-reactive removed from consideration.

Hydrograph: The characteristic features (as flow or depth) of bodies of water.

Hydrological regimes: The spatiotemporal dynamics of water flow and associated fluvial process in an ecosystem.

I

Igneous rock: One of the three primary rock groups, composed of rocks formed by cooling of hot magma, that formed at great depth (plutonic rocks), or that extruded onto the surface (volcanic rocks).

Immediate Foreground: The detailed feature landscape found within the first few hundred feet of the observer, generally, from the observer to 300 feet away. This distance zone is normally used in project-level planning, not broad-scale planning.

Impoundment: Collection or confinement.

Inboard ditches: Drainage ditches that are located on the uphill side of the road.

Indicator species: A species, the presence or absence of which is indicative of a particular habitat, community, or set of environmental conditions.

Indistinctive Landscape: This corresponds to Scenic Attractiveness Class C. Areas where landform, vegetation patterns, water characteristics and cultural land use have low scenic quality. Often water and rock form of any consequence are missing in these landscapes. These landscapes have weak or missing attributes

of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Infrastructure database (INFRA): Forest Service corporate database application that provides for a consistent and accurate inventory and financial data of Forest Service physical assets on Forest Service lands. Each national forest enters, manages and reports information on the inventory of their constructed features. Roads, trails, and bridges among other constructed features associated with the transportation system are managed within the Travel Routes application of INFRA.

In-lieu lots: Recreation residence open lots that are made available to special-use permit holders to rebuild their structures when lost to fire or other circumstances.

Intactness: Untouched or unaltered, especially by anything that harms or diminishes its character.

Integrated Weed Management (IWM): A system for planning and implementation of a program to select a method for containing or controlling an undesirable plant species or group of species using all available methods including: education, prevention, physical or mechanical methods, biological control agents, herbicide methods, cultural methods and general land management. It uses an interdisciplinary and ecological approach to managing unwanted plants-weeds.

Intermixed Lands: All other lands not included in the National Forest System lands. They include private, state, local, and other federal lands.

Intrusive: A rock formed at depth from magma emplaced into pre-existing rock.

Invasive nonnative species: Species that have been introduced into an area in which they did not evolve and in which they usually have few or no natural enemies to limit their reproduction and spread. They are animal and plant species with an extraordinary capacity for multiplication and spread at the expense of native species. These species can cause environmental harm by significantly changing ecosystem composition, structure, or processes and can cause economic harm or harm to human health. Plants in this

category may or may not be designated as noxious weeds.

Inversion: A layer of air in the atmosphere that is warmer than the air below it, in contrast to the usual decrease in temperature with increasing altitude. Pollutants tend to be trapped below the inversion.

Invertebrate: Animal that lacks a spinal column (backbone).

Isobath: A contour line that is at equal depth along its length.

J

Jurisdiction: The limits or territory within which authority may be exercised.

K

Key Area (Range): A small indicator area that is able to reflect management actions representing a much larger area such as a pasture or allotment. Key areas are representative of the health of the rangeland and where condition and trend may be monitored.

Key Place (Landscape Management): A geographic area containing high-valued scenic resources.

km² or km² : Square kilometer.

L

L50 (medium): The level of noise exceeded 50 percent of the time. Usually specified as either the daytime or the nighttime median noise level.

Ladder fuels: Vegetation located below the crown level of forest trees, which can carry fire from the forest floor to tree crowns. Ladder fuels may be low growing tree branches, shrubs, or smaller trees. Fire can move from surface fuels by convection into the crowns with relative ease.

Land management plan ("forest plan"): A strategic level document that guides all natural resource management and established management standards for a national forest, and that embodies the provisions of the National Forest Management Act of 1976.

Landform: One of the attributes or features that make up the Earth's surface such as a plain, mountain, or valley.

Landscape: An area composed of interacting ecosystems that are repeated because of geology, landform, soils, climate, biota, and human influences throughout the area. Landscapes are generally of a size, shape and pattern that are determined by interacting ecosystems.

Landscape Character: Particular attributes, qualities and traits of a landscape that give it an image and make it identifiable or unique.

Landscape Character Goal: A management prescription designed to maintain or modify the existing landscape character to a desired future state (see desired landscape character).

Landscape Restoration: An activity implemented to restore a landscape to achieve the landscape's assigned Scenic Integrity Objective.

Landslide: A general term covering a wide variety of mass; a movement landforms and processes involving a down-slope movement of rock and soil examples include: debris slide, rock fall, translational slide, block glide, avalanche, mudflow, liquefaction slide, slump, etc.

Large Fire:

- 1) For statistical purposes, a fire burning more than a specified area of land (e.g., 100 acres).
- 2) A fire burning with a size and intensity such that its behavior is determined by interaction between its own convection column and weather conditions above the surface.

Lateral Erosion: Horizontal movement of a channel, or a channel widening, caused by water-transport of bank material.

Law Enforcement and Investigations Management Reporting System (LEIMARS): The approved automated system currently in use by the Forest Service for reporting violations of law and of Title 36, Code of Federal Regulations and law violations (FSM 5330).

Level of Service (LOS): A measure of roadway congestion, ranging from A (free flowing) to F (highly congested).

Limits of Acceptable Change (LAC): A framework for establishing acceptable and appropriate resource and social conditions in recreation settings.

Linear Feet: Same as regular feet. If something is 20 linear feet tall, it is 20 feet tall.

Linkage (habitat): Areas of habitat that provide connectivity to other areas of habitat or potential dispersal routes.

Liquefaction: The process of making or becoming liquid (soils).

Litter: The freshly fallen or only slightly decomposed plant material on the forest floor. This layer includes foliage, bark fragments, twigs, flowers and fruit.

Local Scour: Lowering of a channel bed as a result of a local disturbance to flow, such as bridge piers, a sudden drop or a sharp channel bend.

Logger's choice: Also called high grading, it is the selective harvesting of the largest, most highly valued trees in a stand.

Loop Hikes: Paths that begin and end at the same location allowing a complete circuit.

Low Flow: Low rate of water flow due to scant rainfall and low runoff.

Low-Flow Incisement: Formation of a local, small channel inside a larger stream channel as a result of low-discharge flows.

Low Scenic Integrity: This classification refers to landscapes where the valued (desired) landscape characters "appears moderately altered." Deviations begin to dominate the valued landscape character being viewed, but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative-type changes or architectural styles outside the landscape being viewed. Deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings and structures do not dominate the composition. The landscape appears moderately altered. This is synonymous with the Modification Visual Quality Objective under the original Visual Management System.

M

Macroinvertebrate: Invertebrate animal that is visible to the naked eye.

Maintenance: The act of keeping fixed assets in acceptable condition. It includes preventive maintenance and normal repairs; replacement of parts, and structural components; and other activities needed to preserve a fixed asset so that it continues to provide acceptable service and achieves its expected life. Maintenance excludes activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than those originally intended. Maintenance includes work needed to meet laws, regulations, codes and other legal direction as long as the original intent or purpose of the fixed asset is not changed (Financial Health - Common Definitions for Maintenance and Construction Terms, July 22, 1998).

Maintenance Levels: Maintenance levels define the level of service provided by, and maintenance required for, a specific road. Maintenance levels must be consistent with road management objectives and maintenance criteria. Roads assigned to maintenance levels 2-5 are either constant service roads or intermittent service roads during the time they are open to traffic.

- **Level 1:** Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed one year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are “prohibit” and “eliminate”.
- **Level 2:** Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other

specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either to discourage or prohibit passenger cars or accept or discourage high clearance vehicles.

- **Level 3:** Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either “encourage” or “accept”. “Discourage” or “prohibit” strategies may be employed for certain classes of vehicles or users.
- **Level 4:** Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is “encourage”. However, the “prohibit” strategy may apply to specific classes of vehicles or users at certain times.
- **Level 5:** Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is “encourage”.

Major Transportation Corridor: County, state and federal highways.

Major Utility Corridor: Power transmission lines, pipelines, telecommunication lines and associated right of ways.

Management Indicator Species

(MIS): Representative species whose habitat conditions and/or population changes are used to assess the impacts of management activities on species in similar habitats in a particular area.

Management prescription: Management actions and treatments that are implemented under

specific environmental conditions to achieve specific desired results.

Marine sedimentary rocks: Sedimentary rocks formed in an ocean environment.

Mass Wasting: Large land area erosion and failures.

Matrix: A style of organization that encourages cross-departmental co-operation rather than a strict hierarchy.

Meaningful measures: A process that helps provide quality service to recreation visitors by setting quality standards for work, prioritizing work by visitor preferences and agreeing to a plan of work consistent with program funding.

Median: The mid-value is a series of values, with half having greater value and half lower value, to be distinguished from “average.”

Mercalli scale: A scale of earthquake intensity ranging from I for an earthquake detected only by seismographs to XII for causing total destruction of all buildings.

Merchantable: A tree with commercial value.

Mesozoic: The Geologic era ranging from 66 to 245 million years ago.

Metamorphic rock: One of the three primary groups of rocks, whereby the rock is derived from pre-existing rocks by mineralogical, chemical, and/or structural changes, in response to marked changes in temperature, pressure, sheering stress and chemical environment, generally at depth in the earth’s crust.

Metasedimentary: Partially metamorphosed sedimentary rock.

Metavolcanic: Partially metamorphosed volcanic rock.

Meter (m): Length equal to 39.37 inches.

Microclimate: Distinctive climate within a small geographic area.

Micron: One millionth of a meter.

Microwave: Radio communications, which are of sufficiently short wavelength (or high frequency) as to be focused on a line-of-sight between sending and receiving equipment. These radio signals carry information for control purposes.

Middleground: The zone between the foreground and the background in a landscape, located from ½ mile to four miles from the observer.

Millennium: A period of 1,000 years.

Mitigation (biological resources): Action taken to lessen the impact of an action or activity on biological resources; includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation (for Heritage Resources): To lessen or minimize an adverse effect upon a heritage resource listed on or eligible for inclusion within the National Register of Historic Places.

Mixing Height: The distance from the ground to a daytime (temperature) inversion layer.

Moderate Scenic Integrity: This classification refers to landscapes where the valued (desired) landscape characters “appears slightly altered.” Noticeable deviations must remain subordinate to the landscape character being viewed. The landscape appears slightly altered. This is synonymous with the Partial Retention Visual Quality Objective under the original Visual Management System.

Monitoring: The periodic evaluation of management activities to determine how well objectives were met and how management practices should be adjusted. See also, adaptive management.

Monitoring Station: A mobile or fixed site equipped to measure instantaneous or average ambient air pollutant concentrations.

Montane: A zone of relatively moist cool upland slopes below timberline dominated by large coniferous trees.

Mortality removal: The removal of dead vegetation including merchantable trees, non-merchantable trees and chaparral.

Multipathway Pollutants: Pollutants that pose a risk to public health through individual inhalation, ingestion (from food, water, or soil) or dermal absorption.

N

National Fire Plan (NFP): Developed in August 2000, following a landmark wildland fire season, with the intent of actively responding to severe wildland fires and their impact to communities while ensuring sufficient firefighting capacity for the future. The NFP addresses five key points: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability.

National Forest System (NFS) lands: Federal lands designated by Executive Order or statute as National Forests, National Grasslands, or purchase units or other lands under the administration of the U.S.D.A. Forest Service.

National Forest System road (NFSR): A classified national forest road under the jurisdiction of the Forest Service. The term “National Forest System roads” is synonymous with the term “forest development roads” as used in 23 U.S.C. 205.

National Monument: Areas created by law or Executive Order that have unique, ecological, geological, historical, pre-historical, cultural and scientific interest.

National Register of Historic Places: A register of heritage resources of national, state, or local significance that is maintained by the Department of Interior.

National Visitor Use Monitoring (NVUM): Provides sound and statistically reliable estimates of recreation and visitor use within national forests upon which to base land management planning decisions.

National Wild and Scenic River System: Rivers with outstanding scenic, recreational, geological, fish and wildlife, historic, cultural or other similar values designated by Congress under the Wild and Scenic Rivers Act for preservation of their free-

flowing condition (see also Wild and Scenic Rivers).

National Wilderness Preservation System: All lands covered by the Wilderness Act and subsequent wilderness designations, irrespective of the department or agency having jurisdiction.

Native species: Species that have evolved in, or are indigenous to, a specific area.

Natural-Appearing Landscape Character: Landscape character that has resulted from human activities yet appears natural, such as historic conversion of native forests into farmlands, pastures and hedgerows that have reverted back to forests through reforestation activities or natural regeneration.

Natural disturbance: Periodic impact of natural events such as fire, severe drought, insect or disease attack, or wind.

Natural environment: The complex of biotic and abiotic factors that acts on an organism or a community in the absence of significant human intervention.

Natural Landscape Character: Landscape character that originated from natural disturbances, such as wildland fires, glaciations, succession of plants from pioneer to climax species, or indirect activities of humans, such as inadvertent plant succession through fire prevention.

Niche: A place or activity for which a thing is best fitted.

Nitric Oxide (NO): A molecule of one nitrogen atom and one oxygen atom. Results usually from combustion of organic substances containing nitrogen and from recombination of nitrogen decomposed in air during high temperature combustion.

Nitrogen Dioxide (NO₂): A molecule of one nitrogen atom and two oxygen atoms. Results usually from further oxidation of nitric oxide (NO) in the atmosphere. Ozone accelerates the conversion.

Nitrogen Oxides (NO_x): Poisonous and highly reactive gases produced when fuel is burned at high temperatures causing nitrogen in the air to combine with oxygen. A gaseous mixture: nitric

oxide (NO), nitrogen dioxide (NO₂), and symbolically represented as NO₃.

Noise Level (medium): The level of noise exceeded 50 percent of the time. Usually specified as either the daytime or the nighttime median noise level. Also given the designation L50.

Non-Native American settlement: Extensive and widespread settlement in the western U.S. that began in response to the Homestead Act and other legislation that promoted migration to western lands in the middle to late nineteenth century. Often referred to as Euro-American settlement, also included large numbers of African Americans after the Civil War, Asian Americans from the West Coast and Hispanic Americans from the New World.

Nonnative species: Species that have been introduced by various means into areas where they were not originally found; also called alien or exotic species.

Nonpoint source: A source of pollutants that flow into surface waters from agricultural run-off from fields, urban run-off from paved streets and parking areas, mining and forestry operations, and atmospheric deposition (contrast to point source).

Notice of Intent: Formal notice that an EIS will be prepared and considered. Published in the Federal Register. Includes a Proposed Action, the proposed scoping activities, and a contact within the agency that can answer questions about the Proposed Action and the EIS.

Noxious weed: Plant species so designated by the Secretary of Agriculture or by a responsible state official; they generally possess one or more of the following characteristics: aggressive or difficult to manage; poisonous, toxic, or parasitic; a carrier or host of serious insects or disease; and generally nonnative. There are regulations and reporting requirements in place to reduce the introduction and spread of noxious weeds.

Nutrient cycling: The transformation of chemical elements from inorganic form in the environment to organic form in organisms and via decomposition back to inorganic form.

O

Objective: A concise, time-specific statement of measurable planned results that respond to pre-established goals or desired conditions. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals.

Occupational Safety and Health

Administration (OSHA): A federal agency regulating the health safety of the work place.

Off-Highway Vehicle (OHV): Vehicles operated or used exclusively off-highway pursuant to Section 38010(a) and as defined in Sections 38006(a) and 38012(a), (b) of the California Vehicle Code. Typical vehicle types are all terrain-vehicles, “dirt bike” motorcycles, snowmobiles and dune buggies. Vehicles registered for use on State highways pursuant to Section 4000 of the California Vehicle Code and are defined as off-highway vehicles pursuant to Section 38006(b) when used off-highway; typically, all types of four-wheel drive vehicles, Sport Utility Vehicles and dual sport motorcycles.

Off-Road Vehicle (ORV): Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain (E.O. 11644, 1972).

Off-route impact: The effect of unauthorized vehicle travel off roads and trails on soils, vegetation or other resources. The impact can be a linear feature, such as a single motorcycle track or may be larger in scope and can be from a few to many acres in size, such as a vehicle “play” area or a series of hill climbs. Off-route impacts are generally located immediately adjacent to the national forest road and trail systems.

Old growth: Old forests, which often contain several canopy layers, variety in tree sizes, species, decadent old trees, and standing and dead woody material.

Open Area: An area that is managed for unrestricted, cross-country vehicle travel both motorized and non-motorized.

Open Space: An area having no enclosing or confining barrier.

Operational Maintenance Level (OML): The type of maintenance required for specific road conditions. Levels are from 1-5, with 5 being the highest amount of maintenance required.

Outfitter/Guide: A special-use permit holder that provides all commercial outfitting operations involving services for accommodating guests, transporting persons, providing equipment, supplies, and materials. The permit holder also provides guiding activities wherein the guide furnishes personal services or serves as a leader or teacher.

Outslope: Roads that are sloped towards the downhill side of the roadway to better match the natural drainage patterns and minimize the potential for diversion.

Overstory: The upper tree canopy layer; the plants below comprise the understory.

Oxidant: A mixture of chemically oxidizing compounds formed from ultraviolet stimulated reactions in the atmosphere, with ozone a principal fraction.

Ozone (O₃): A molecule of three oxygen atoms; O₃. A principal component of “oxidant” in photochemically polluted atmospheres. A colorless gas formed by a complex series of chemical and photochemical reaction of reactive organic gases, principally hydrocarbons, with the oxides of nitrogen, which is harmful to the public health, the biota and some materials.

P

Paleozoic: The geologic era ranging from 245 to 570 million years ago.

Particulate matter: Very fine sized solid matter or droplets, typically averaging one micron or smaller in diameter, also called “aerosol”.

Partnerships: Internal and external relationships that have mutual benefits, bridge communities and engage partners in meaningful ways.

Parts per billion (ppb): A measure of the amount of one substance in a second, which is the carrier.

Parts per million (ppm): Is a measure of concentration that is used where low levels of concentration are significant. The value is

equivalent to the absolute fractional amount multiplied by one million.

Parts per thousand (ppt): A chemical concentration used to express the salinity of water.

Pastoral Landscape Character: Landscape character that has resulted from human activities, which contains positive cultural elements such as historic conversion of native forests into farmlands, pastures and hedgerows plus some remnants of native forests.

Patch cut: A silvicultural method where all trees in a localized area are harvested. Patch size varies depending upon the forest type and management goals but is typically 1 to 100 hectares in scale.

Pebble Plains: Remnants of a Pleistocene lakebed, with clay soils covered with quartzite. Characteristically treeless openings within the surrounding montane pinyon-juniper woodland or coniferous forest, located at elevations between 6,000 and 7,500 feet.

Perimeter: The exterior boundary.

Perpetuate: To cause to last indefinitely.

Persons At One Time (PAOT): A recreational capacity measurement term indicating the number of people who can use a facility or area at one time.

Perturbation: An event or shift in ecosystem properties that causes major disruption to or mortality of ecosystem components.

Pesticide: Pesticide is a general term used to describe chemicals that kill harmful organisms such as insects, fungi, plants, etc. Pesticides include herbicides (e.g., glyphosphate), insecticides (e.g., carbaryl), and fungicides (e.g., sporax).

pH: A measure of acidity or alkalinity.

Phenology: The study of the annual cycles of plants and animals and how they respond to seasonal changes in their environment. In botany, refers to the timing of flower emergence, sequence of bloom, fruiting, and leaf drop.

Photochemical Pollutant: Reactive organic compounds and nitrogen oxides, photochemical pollutants that absorb energy from sun and react chemically to form ozone.

Phytoplankton: Microscopic plants that form the base of the marine/aquatic food chain.

Place: A geographic area with a mix of cultural and natural features that creates a familiar and enduring image to the public.

Plant communities: Assemblages of plants that grow together in space and time.

Pluton/plutonic: An intrusive igneous rock body formed at great depth, characteristic of a pluton.

PM(x)/PM(x): Standards set by the U.S. Environmental Protection Agency to control the amount of particulate matter in the atmosphere that is less than or equal to the amount in (variable indicated in parenthesis) micrometers in diameter.

Point source: A source of pollutants that is discernable and confined, such as a pipe, ditch, channel, conduit, or tunnel. Point sources exclude agricultural discharges (contrast to nonpoint source).

Pounds per square inch (Psig): A unit of pressure.

Preferred Alternative: The alternative recommended for implementation at the draft Forest Plan phase based on the evaluation completed in the planning process; it is not a decision.

Prehistoric Site: Archeology sites associated with American Indians and usually occurring before contact with Europeans.

Prescribed Fire: Any fire ignited by management actions under certain predetermined conditions to meet specific objectives related to hazardous fuels reduction or habitat improvement. A written approved prescribed fire plan must exist, and NEPA requirements must be met prior to ignition. Prescribed fires are ignited and managed within a "window" of very specific conditions including winds, temperatures, humidity, and other factors specified in the burn plan.

Prescribed thinning: The use of mechanical treatments to remove trees from forest stands.

Pre-suppression: Prior to wildland fire suppression, generally speaking, prior to 1930.

Prevention (Wildland Fire): Activities directed at reducing the incidence of fires including public

education, law enforcement, personal contact, and reduction of fuels hazards.

Productivity: The amount of biomass produced in an ecosystem or specific subsystems of an ecosystem (e.g., understory productivity) over a given period.

Proposed Action: A proposal made by the Forest Service to authorize, recommend, or implement an action on National Forest System lands to meet a specific purpose and need. The Proposed Action is subject to public notice and comment provisions.

Proposed species: Any species of fish, wildlife, or plant officially proposed by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (NOAA Fisheries), via a notice in the Federal Register, to be listed as threatened or endangered.

Protected Activity Centers (PAC): Best 300 acres of habitat, if available, around California Spotted Owl nest or center of territory.

Public roads: Any road or street that is under the jurisdiction and maintained by a public authority and is open to public travel.

Q

Q-curves: This is the ratio of one size class in a distribution of tree diameters compared to the ratio of the next smaller tree diameters.

R

Raptor: A bird of prey, such as an eagle or hawk.

Reactive Organic Compounds (ROC): Organic compounds chemically sensitive to the ultraviolet light in sunlight (see Air Quality).

Record of Decision (ROD): A public document separate from but associated with an Environmental Impact Statement that identifies all alternatives, provides the agency's final decision, the rationale behind that decision, and the agency's commitments to monitoring and mitigation of impacts.

Recreation (Outdoor): Any type of conscious enjoyment that occurs during leisure time; a refreshment of strength and spirits.

Recreation Carrying Capacity: The level of recreation use beyond which impacts exceed

social or biological levels specified by evaluative standards.

Recreation Complex: A concentration of developed recreation facilities.

Recreation Opportunity: Availability of a real choice for a user to participate in a preferred activity within a preferred setting in order to realize desired experiences.

Recreational Opportunity Spectrum (ROS): A framework for stratifying and defining classes of outdoor recreation environments, activities and experience opportunities. The settings, activities and opportunities for obtaining experiences are arranged along a continuum or spectrum divided into six classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban.

Recreation Residence: Cabins on National Forest System land that normally were established in tracts and built for recreation purposes with Agency approval and supervision. These cabins are authorized by special-use permit and are not the primary residences of the owners.

Recreation Visitor Day (RVD): Equals to twelve visit hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons. Recreation visitor days are used to measure recreational production or output capacity.

Reference conditions: Conditions characterizing ecosystem composition, structure, and function and their variability.

Refugia: Areas of relatively unaltered climate inhabited by plants and animals during a period of continental climatic change (as a glaciation) that remain as a center of relict forms from which a new dispersion and speciation may take place after climatic readjustment. Also, areas of remaining habitat preserved and managed for plants and animals whose habitat has otherwise been altered by human activities.

Regime: A regular pattern of occurrence or action.

Rehabilitation (Wildland Fire): Commonly referred to as "rehab," the work necessary to repair damage or disturbance caused by wildland

fire or suppression activities. Often includes restoration of firelines or dozer work, and projects such as erosion control, installation of water bars or culverts, reseeding or other rehab of fire-damaged areas.

Renewable energy resources: Energy resources that are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy available per unit of time. Renewable energy resources include: biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action.

Research Natural Area (RNA): An area of land designated in perpetuity for research and education purposes, in which current natural conditions are maintained insofar as possible. These conditions are ordinarily achieved by allowing natural, physical and biological processes to prevail without human intervention. However, under certain circumstances, deliberate manipulation may be utilized to maintain the unique feature(s) (target element[s]) that the RNA was established to protect.

Resilience: The ability of an ecosystem to restore or maintain biodiversity, ecosystem functions, and ecological structure and processes after a perturbation.

Restoration: The process of returning ecosystem patterns or processes to a historical range of variability or other defined reference condition.

Rights-of-Way (ROW): An area or strip of land to allow access or to allow a utility to pass through public or private lands.

Riparian: Related to, living, or located in conjunction with a wetland, on the bank of a river or stream, or at the edge of a lake or tidewater.

Riparian area: Habitat area along a stream, river or other body of water, distinguished by characteristic plant and animal communities.

Riparian-dependent resources: Natural resources that owe their existence to the riparian area, such as fish, amphibians, reptiles, fairy shrimp and other aquatic invertebrates, plants, birds, mammals, soil and water.

Riprap: Large rock (generally 8” diameter or larger) used to stabilize slopes or slow down the movement of water. A foundation constructed of broken stones or boulders loosely placed or thrown together, as in deepwater, on a soft bottom, or as a seawall to protect against erosion.

Road: A motor vehicle travel way over 50 inches wide, unless designated and managed as a trail. A road may be classified, unclassified, or temporary.

- **Classified Roads:** Roads wholly or partially within or adjacent to National Forest System lands that are determined to be needed for long-term motor vehicle access including state roads, county roads, privately owned roads, National Forest System roads and other roads authorized by the Forest Service.
- **Temporary Roads:** Roads authorized by contract, permit, lease, other written authorization, or emergency operation not intended to be a part of the national forest transportation system and not necessary for long-term resource management.
- **Unclassified Roads:** Roads on National Forest System lands that are not managed as part of the national forest transportation system, such as unplanned roads, abandoned travel ways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization.

Road Analysis: An interdisciplinary science-based analysis of road system opportunities, needs and priorities that support land and resource management objectives.

Road Decommissioning: Activities that result in the stabilization and restoration of unneeded roads to a more natural state.

Road Improvement: Activity that results in an increase of an existing road’s traffic service level, expands its capacity, or changes its original design function.

Roadless Area Review and Evaluation (RARE): In 1972, the Forest Service began a review of

National Forest System roadless areas (the Roadless Area Review and Evaluation, subsequently called RARE I) to determine their suitability for inclusion in the National Wilderness Preservation System. A second review for Wilderness consideration of roadless areas at the national scale was initiated in 1978 (RARE II).

Roadless Areas: Substantially natural landscapes in national forests that (1) are larger than 5,000 acres or, if smaller, contiguous to a designated wilderness or primitive area, (2) contain no constructed or maintained roads and (3) have been inventoried by the Forest Service for possible inclusion in the National Wilderness Preservation System.

Road maintenance: The ongoing upkeep of a road that is necessary to retain, or restore the road to the approved road management objective.

Road prism: Cross-section of roadway including cut or fill slopes, subgrade, subbase, surfacing, ditches and other drainage structures.

Road Reconstruction: Activity that results in improvement or realignment of an existing classified road as defined below:

Road Realignment: Activity that results in a new location of an existing road or portions of an existing road and treatment of the old roadway.

Roads subject to the Highway Safety Act: National Forest System roads open to use by the public for standard passenger cars. This includes roads with access restricted on a seasonal basis and roads closed during extreme weather conditions or for emergencies but which are otherwise open for general public use.

Rockform: A significant composition of mineral matter constituting the Earth’s crust; one of the attributes or features that make up part of the Earth’s surface, such as a mountain, cliff, peak, bluff, valley wall, or bedrock.

Rocking: Replacing of or adding to the road-wearing surface.

Roosting site: A place where birds or bats spend the night.

Rural/Agricultural Landscape Character: This is a landscape character that has resulted from extensive human activities and which no longer

appears natural, such as conversion of native landscapes into extensively cultivated farmlands, vineyards, pastures, or an area of intensive domestic livestock production.

S

Salvage logging: Logging of dead trees prior to dead trees becoming non-merchantable.

Savanna: An open grassland with scattered trees, which often forms a broad ecotone between true grassland and true forest or woodland.

Scenery: General appearance of a place, general appearance of a landscape, or features of a landscape.

Scenery Management: The art and science of arranging, planning and designing landscape attributes relative to the appearance of places and expanses in outdoor settings.

Scenery Management System: The USDA Forest Service methodology for classifying the aesthetic values of landscapes are based upon the scenic attractiveness of the landscape, the landscape's visibility and the public's concern about changes in the landscape from a natural condition.

Scenic: Of or relating to landscape scenery; pertaining to natural or natural-appearing scenery; constituting or affording pleasant views of natural landscape attributes or positive cultural elements.

Scenic Attractiveness: The scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, rock-form, water-form, and vegetation pattern. Reflects varying visual perception attributes of variety, unity, vividness, intactness, coherence, mystery, uniqueness, harmony, balance and pattern. It is classified as: (1) Distinctive, (2) Typical and (3) Indistinctive.

Scenic Integrity: State of naturalness or, conversely, the state of disturbance created by human activities or alteration. Integrity is stated in degrees of deviation from the existing landscape character.

Scenic Integrity Objectives (SIOs): The objectives that define the minimum level to which landscapes are to be managed from an aesthetics standpoint. There are six objectives that describe

the landscape in varying degrees from naturalness: Very High (Unaltered), High (Appears Unaltered), Moderate (Slightly Altered), Low (Moderately Altered), Very Low (Heavily Altered).

Scenic Quality: The essential attributes of the landscape that when viewed by people, elicit psychological and physiological benefits to individuals and therefore to society in general.

Scenic Resource: Attributes, characteristics and features of landscapes that provide varying responses from and varying degrees of benefits to humans.

Schist: A crystalline metamorphic rock with closely spaced linear features that tend to split into thin flakes of slabs.

Scoping: Determination of the significant issues to be addressed in an EIS.

Sedimentary rock: One of the three primary rock groups, composed of rocks formed by the deposition of sediment.

Seed tree cut: Removal of the mature timber crop from an area in one cut except for a certain number of trees left singly, in small groups, or in narrow strips as a source of seed for natural regeneration.

Seen Area: The total landscape area observed based upon landform screening. Seen areas may be divided into zones of immediate foreground, foreground, middle ground, background, and some landscapes are seldom seen by the public.

Seldom Seen: Remote areas of the landscape infrequently viewed by the public or only visible from aerial viewpoints.

Selected Alternative: The alternative chosen by the Regional Forester for implementation in the forest plan based on the evaluation completed in the planning process.

Sensitive Receptor: That segment of the population (because of age or weak health) more susceptible to the effects of air pollution, noise, oil spill, etc., than the population at large.

Sensitive species: A plant or animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density or in habitat

capability that would reduce a species' existing distribution. Sensitive species are not covered under the Endangered Species Act.

Serpentine: A mechanically weak, green rock, which is susceptible to failure or sliding, particularly on steep slopes.

Shrink-swell potential: Is the expansion or contraction of primarily clay-rich soils during alternating wetting and drying cycles.

Significance (In reference to the National Register of Historic Places): The meaning or value ascribed to a heritage resource based on the National Register of Historic Places evaluation criteria. It normally stems from a combination of association and integrity.

Silviculture: The art and science that promotes the growth of single trees and the forest as a biological unit.

Size class: One of the intervals of tree stem diameters used to classify timber.

Ski Area: A site and attendant facilities expressly developed to accommodate alpine or Nordic skiing and from which the preponderance of revenue is generated by the sale of lift tickets and fees for ski rental, skiing instruction and trail passes, or for the use of permit holder-maintained ski trails. A ski area also may include ancillary facilities directly related to the operation and support of skiing activities. Operation of Nordic and alpine ski areas for up to 40 years and encompassing such acreage as the national forest officer determines sufficient and appropriate is authorized by the National Ski Area Permit Act of 1986.

Skiers at one time (SAOT): The daily capacity of a ski-based resort.

Slough: Vertical surface layer that is loose and eroding, place of deep mud or mire, bog, a stagnant swamp, backwater, bayou inlet, or pond in which water backs up.

Slumping: Road section failures.

Smoke Management: Application of fire intensities and meteorological processes to minimize degradation of air quality during prescribed fires.

Snags: Standing dead trees that provide important wildlife habitat, especially for cavity-nesting birds.

- **Hard Snag:** A snag composed primarily of sound wood.
- **Soft Snag:** A snag composed primarily of wood in advance stages of decay and deterioration.

Sociocultural: Involving a combination of social and cultural factors.

Soil compaction: A physical change in soil properties that results in a decrease in porosity, and an increase in soil-bulk density and strength: (1) to unite firmly, the act or process of becoming compact; (2) geology, the changing of loose sediment into hard, firm rock; (3) soil engineering, the process by which the soil grains are rearranged to decrease void space and bring them into closer contact with one another, thereby increasing the bulk density; (4) solid waste disposal, the reducing of the bulk of solid waste by rolling and tamping.

Soil erosion: The detachment and movement of soil from the land surface by gravity, water or wind.

Soil hydrophobicity: Soil that is water repellent, often due to dense fungal mycelial mats or hydrophobic substances vaporized and re-precipitated during fire. Hydrophobic molecules and surfaces have little or no affinity for water molecules. Also, the tendency for a soil particle or soil mass to resist hydration, usually quantified using the water drop penetration time test.

Soil productivity: The inherent capacity of a soil to support the growth of specified plants, plant communities or a sequence of plant communities. Soil productivity may be expressed in terms of volume or weight/unit area/year, percent plant cover, or other measures of biomass accumulation.

Special Forest Products (SFP): Renewable products derived from biological resources for personal, educational, commercial, and scientific use. Excludes saw-timber, pulpwood, cull logs, small round wood, house logs, utility poles, minerals, animals, animal parts, rocks, water, and soil.

Special Interest Areas (SIAs): Areas of the national forest that are managed to protect or enhance their unique characteristics, and where appropriate, to enhance public education and recreation related to those characteristics. SIA's can be established for their botanical, cultural, zoological, paleontological, geological or other values. They can also be established to protect and manage threatened, endangered and sensitive species or other elements of biological diversity.

Special-Uses: Improvements or activities owned or carried out by private individuals, corporations or other business entities on National Forest System lands under the authorization of a permit. Examples include organization camps, ski areas, apiaries and water systems.

Species of special interest: Native or nonnative species of plants and animals (e.g., rare and threatened species, invasive animals or weeds) that require special management and monitoring actions.

Stand (forest stand): A group of trees that occupy a specific area and are similar in species, age and condition.

Standard: A performance criterion indicating acceptable norms, specifications or quality that an action must meet to maintain the minimum consideration for a resource. Some standards might apply to all areas of the national forest, others only to a specific area (e.g., "place").

Standard Cubic Foot (SCF): A measure of volume or rate-of-flow of liquid.

State Historic Preservation Officer (SHPO): The SHPO is usually involved in consultation procedures associated with the National Historic Preservation Act of 1966, as amended.

State Implementation Plan (SIP): A document required periodically from each county by EPA that indicates the progress and the planning of the county for improving the quality of its air (see Air Quality).

Stocking level: The number of trees in an area as compared to the desirable number of trees for best growth and management.

Stormproof: Improve drainage patterns to reduce erosion during storm events.

Stream Scour: Lowering of a streambed during the passage of a single stream flow. Stream scour can be local in nature (see Local Scour) or more widespread (see General Scour).

- **Local Scour:** Occurring at a specific site such as a bridge or other stream construction.
- **General Scour:** Occurring within a stream over long distances due to changes in hydrology controls.

Structure: How the parts of an ecosystem are arranged, both horizontally and vertically.

Subordinate: Landscape features that are inferior to, or placed below, another in size, importance, brightness and so on. Those features secondary in visual impact or importance.

Substrate: Geologic term describing soil or geologic layers underlying a project site or construction area.

Succession: The replacement in time of one plant or animal community with another. The initial seral stage (community or successional stage) often creates conditions favorable for the establishment of the next seral stage, or the next stage may simply consist of longer-lived or more persistent organisms.

Sulfates: Compounds in air or water that contain four oxygen atoms for each sulfur atom (see sulfur Oxides).

Sulfur Dioxide (SO₂): a corrosive and poisonous gas produced from the complete combustion of sulfur in fuels.

Sulfur Oxides (SO_x): The group of compounds formed during combustion or thereafter in the atmosphere of sulfur compounds in the fuel, each having various levels of oxidation, ranging from two oxygen atoms for each sulfur atom to four oxygen atoms. A gaseous mixture of sulfur dioxide (SO₂), sulfur trioxide (SO₃) and symbolically represented as SO_x. It also can include particulate species such as sulfate compounds (SO₄).

Suppression: All the work of extinguishing or containing a fire, beginning with its discovery.

Surface fire: Fire that spreads through ground fuels with a flaming front.

Sustainability: The ability of an ecosystem to maintain ecological processes and functions, biological diversity and productivity over time.

Sustainable ecosystem: An ecosystem with a balance of processes and components that promote ecosystem resilience and permit the ecosystem to persist into the future in a functional and productive manner.

Sustainable recreation: The design and maintenance of outdoor recreation facilities and corresponding activities that promote long-term health and provide high-quality outdoor recreation opportunities.

Sustained Yield: Production of a biological resource under management procedures, which ensure replacement of the harvest by regrowth or reproduction before another harvest occurs.

T

Tactics: Deploying and directing resources on an incident to accomplish the objectives designated by strategy.

Terrestrial: Related to or living on land.

Thinning: Use of mechanical treatments to remove tree biomass from forest stands.

Thinning from below: Removal of all trees from a stand below a certain diameter to favor larger trees in the stand.

Threatened Species: A plant or animal species designated by the U.S. Fish and Wildlife Service or National Marine Fisheries Service (NOAA Fisheries) as likely to become endangered within the foreseeable future throughout all or a specific portion of its range.

Topography: Configuration of a surface including its relief and the position of its natural and man-made features.

Total Suspended Particulates (TSP): Solid or liquid particles small enough to remain suspended in air. PM10 is the portion of TSP that can be inhaled.

Traditional Cultural Properties (TCPs): An area that is eligible for inclusion in the National Register of Historic Places because of its associations with cultural practices and beliefs of a living community. They are rooted in the

community's history and are important in maintaining the continuing cultural identity of the community.

Traffic service level: Describes the significant characteristics and operating conditions of a road.

Transportation Facility Jurisdiction: The legal right to control or regulate use of a transportation facility derived from fee title, an easement, an agreement, or other similar method. While jurisdiction requires authority, it does not necessarily reflect ownership.

Troposphere ozone injury: Effects of ozone on physiological function of plant species.

Turbidity: Cloudiness or muddiness of water or ocean resulting from suspended or stirred up particles.

Typical Landscape: This corresponds to Scenic Attractiveness Class B. Areas where landform, vegetation patterns, water characteristics and cultural features combine to provide ordinary or common scenic quality. These landscapes generally have positive yet common attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern and balance.

U

Ubiquitous: Existing or being everywhere at the same time; constantly encountered.

µg/m³: Millionths of a gram per cubic meter; a unit of concentration in liquids or gases.

Ultramafic: Extremely basic.

Unacceptably Altered: A scenic integrity level (never an objective) where human activities of vegetation and landform alterations are excessive and totally dominate the natural or natural-appearing landscape character. Unacceptable alterations are "what not to do to any landscape," regardless of the distance from which the management activity may be observed.

Uncontrolled Fire: Any fire that threatens life, property, or natural resources.

Understory: Lower vegetation layers found beneath the canopy, including smaller trees, shrubs, grasses, grass-like plants and/or forbs, depending on the vegetation type.

Undesirable plant: Plant species classified as unwanted, noxious, harmful, exotic, injurious or poisonous pursuant to state or federal laws; including those designated by the Secretaries of Agriculture or the Interior.

Uneven-aged tree selection: The stand created or maintained includes three or more distinctly different age classes.

Untrammeled: An area with nothing impeding activity, progress, or freedom.

Upgrade culvert: Increase the size of a culvert to handle larger flows (storm events).

Urban: Landscape character that has resulted from extensive human activities; no longer appearing natural such as conversion of native landscapes into an extensively altered landscape (such as a town, city or metropolitan area).

Urban Infrastructure: Roads, bridges, pipelines, aqueducts, electric generation, transmission and distribution facilities, railroads, and similar public works associated with urbanized areas.

Urban/wildland interface: See Wildland/Urban Interface.

V

Variable point sampling: Does not require measurement of the plot radius or tree diameters to compute the basal area per acre. Stem counts are made with each tree tallied contributing equally without regard to diameter, and to the basal area estimate.

Variable radius plots: A method to determine tree sizes and densities in forest stands. The radius (limiting distance) of a plot varies by tree sizes and the basal area factor used.

Vegetation: Plant life or total plant cover.

Vernal pools: Seasonally flooded depressions found on soils with an impermeable layer such as a hardpan, claypan, or volcanic basalt. Vernal pools often fill and empty several times during a rainy season.

Very High Scenic Integrity: This classification generally provides for ecological changes only. This refers to landscapes where the valued (desired) landscape character is intact with only minute, if any, deviations. The existing landscape

character and sense of place is expressed at the highest possible level. The landscape is unaltered. This is synonymous with the Preservation Visual Quality Objective under the original Visual Management System.

Very Low Scenic Integrity: This classification refers to landscapes where the valued (desired) landscape character, “appears heavily altered.” Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes, such as size, shape, edge effect and pattern of natural openings, vegetative-type changes or architectural styles within or outside the landscape being viewed. However, deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings and structures do not dominate the composition. The natural landscape character should appear as natural occurrences when viewed at background distances. The landscape appears heavily altered. This is synonymous with the Maximum Modification Visual Quality Objective under the original Visual Management System.

Viable population: A species population that has the estimated numbers and distribution of reproductive individuals to ensure its continued existence.

View: Something that is looked toward or kept in sight, especially a broad landscape or panorama. Act of looking toward this object or scene.

Viewshed: Total visible area from a single observer position or the total visible area from multiple observer positions. Viewsheds are accumulated seen-areas from highways, trails, campgrounds, towns, cities or other viewer locations. Examples are: corridor, feature, or basin viewsheds.

Vista: This is a confined view especially one seen through a long passage as between rows of trees or down a canyon which focuses on a specific feature in the landscape. Unlike a view, the vista is often human-created, and is thereby subject to design.

W

Water jurisdiction: A category of water law that falls into one of three doctrines: riparian, prior appropriation and a hybrid combination.

Water rights: The legal right to make use of the water from a particular water source for a federal reserved use or a state recognized beneficial use.

Water table: The upper surface of the zone of groundwater saturation where all the pore spaces are filled with water.

Waterform: One of the attributes or features that make up the Earth's surface such as a pond, lake, stream, river, waterfall, estuary or ocean.

Watershed: The area contained within a drainage divide above a specified point on a stream.

Weed: A plant species introduced into an area unintentionally through human activities and not wanted.

Wetland: Land transitional between an obvious upland and an aquatic environment; an area inundated by surface or groundwater with a frequency sufficient to support vegetation or aquatic life that requires saturated or seasonally saturated soil conditions. Wetlands generally include marshes, bogs, wet meadows, river overflows, mud flats and natural ponds; they are generally highly productive environments with abundant fish, wildlife, and aesthetic and natural resource values.

Wild and Scenic Rivers (WSRs): Rivers or sections of rivers designated by Congressional actions under the 1968 Wild and Scenic Rivers Act as wild, scenic or recreational by an act of the legislature of the state or states through which they flow (see also National Wild and Scenic Rivers System). Rivers may be classified and administered under one or more of the following categories:

- **Wild:** A river or a section of a river that is free of impoundments with watersheds and is still largely primitive and the shorelines largely undeveloped, but accessible in places by roads.
- **Scenic:** A river or a section of a river that is free of impoundments with watersheds

and is still largely undeveloped, but accessible in places by roads.

- **Recreational:** A river or section of a river that is readily accessible by road or railroad that may have some development along its shoreline and that may have undergone some impoundment or diversion in the past.

Wilderness: An area of undeveloped federal land that Congress designated as wilderness and that retains its primeval character, and influence without permanent improvements or human habitation and is protected and managed to preserve its natural conditions. An area that; (1) generally appears to have been affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) comprises at least 5,000 acres of land, or is of sufficient size to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic or historical value.

Wilderness Implementation Schedule: A document outlining how the wilderness management direction in a forest plan will be carried out; a three-to-five year schedule of actions that are needed to bring existing conditions into compliance with forest plan standards.

Wildfire: An unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fire where the objective is to put the fire out.

Wildland: Land which is uncultivated or unfit for cultivation.

Wildland Fire: Any non-structure fire that occurs in a wildland area. Three distinct types of wildland fire have been defined and include: wildfire, wildland fire use, and prescribed fire.

Wildland Fire Use: The application of the appropriate management response to naturally ignited wildland fires to accomplish specific resource management objectives in predefined

designated areas outlined in Fire Management Plans.

Wildland/Urban Interface (WUI): That line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Often incorrectly referred to as the "interzone" or "urban/wildland interface".

Wildlife: Native animal species, as well as native animal communities.

Wildlife habitat diversity: The distribution and abundance of different plant and animal communities and species within a specific area.

Windthrow: Trees uprooted by wind.

Y

Yellow Post Site: Designated place to disperse camp on the San Bernardino National Forest.

Z

Zooplankton: Microscopic marine/aquatic animals generally carried within a water mass.

Appendix K. Bibliography

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Appendix L. Visitor Use and Participation (NVUM)

Visitor Use

Under the National Visitor Use Monitoring (NVUM) system, a four-year cycle of data collection was established. In any given year, 25 percent of the national forests conduct on-site interviews and sampling of recreation visitors. The Angeles National Forest was surveyed in calendar year (CY) 2000, the Cleveland and Los Padres National Forests in fiscal year (FY) 2001. The San Bernardino National Forest was surveyed in FY 2003.

The following tables display data collected using the NVUM system, and a summary of current general visitor use by four southern California national forests, which is a measure of the number of people participating in a given activity or using a particular site (see table 421: Summary of current general visitor use by forest).

Table 421. Summary of current general visitor use by forest

Visits*	Angeles	Cleveland	Los Padres	San Bernardino	Forest Totals
National Forest	3,500,000	792,603	1,516,785	1,953,634	7,763,022
Error Rate %	7.3	31.4	27.0	7.6	-
Site	3,900,000	833,988	1,801,730	2,321,765	8,857,483
Error Rate %	8.2	31.4	26.9	7.9	-

*National Forest visit - The entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A national forest visit can be composed of multiple site visits. Site visit - The entry of one person onto a national forest site or area to participate in recreation activities for an unspecified period.

In a September 2002 NVUM report, it was estimated that 28.7 million national forest visits occurred annually in California and 214 million national forest visits nationwide. The average national forest visit was made up of 1.2 site visits thus producing 256.2 million national forest site visits. An additional 215 million people view National Forest System lands from non-Forest Service managed roads and waterways outside the national forests, highlighting the role of scenery and tourism.

Many southern California national forest visitors participated in some form of day-use recreation, with average site visits that ranged from 5.7 to 9.8 hours. The national average for length of a national forest visit is considerably longer than that, at slightly under 19 hours (NVUM).

Most visitor race/ethnicity has been identified by recent NVUM research for the four southern California national forests as being White; however, a strong component of Spanish, Hispanic and Latino families are present, along with a growing use by Asians and Pacific Islanders. Most use is by urban southern California male visitors (NVUM).

See table 422: Predominant Race/Ethnicity, Gender, and Age of Forest Visitors.

Table 422. Predominant Race/Ethnicity, Gender, and Age of Forest Visitors

Category	Angeles	Cleveland	Los Padres	San Bernardino
Race/Ethnicity - %	White -- 79%	White -- 83.2%	White -- 77%	White -- 71%
Gender - %	Male -- 82%	Male -- 80%	Male -- 71%	Male -- 66%
#1 Age Class - %	Under 16 -- 24.5%	31 to 40 -- 24.5%	31 to 40 -- 27%	Under 16 -- 25%
#2 Age Class - %	31 to 40 -- 22%	41 to 50 -- 21%	Under 16 -- 22%	30 to 39 -- 23%

Source: NVUM

Nationally, 92 percent of national forest visitors are White, 70 percent are men, and almost 50 percent are between the ages of 31 and 50.

A recent study (Richer 2002) indicated that fewer White (Caucasian) race/ethnicity visit the Angeles (56 percent) and San Bernardino (55 percent) National Forests and considerably more Hispanic (Latino) 25 percent and 32 percent visit, respectively, than indicated by the NVUM data. Most visitors are male (ranging between 65 percent at the San Bernardino National Forest and 74 percent at the Los Padres National Forest). Most visitors are between the ages of 20 and 49, and have either graduated from college or completed some college coursework. The median household size ranges between two and four, and median household income is between \$47,500 and \$52,500.

See also the “Socio-demographic Profiles for Outdoor Recreation Visitors” section of the Socioeconomic Assessment in this FEIS for visitor profiles and management implications.

Information received from the four southern California national forests during the fall of 2002 (Forest Meetings 2002) indicated that, as might be expected, some areas were more intensively visited than others. The most intensively visited Places were often those near the major urban centers, especially lower elevation canyons with streams. Other popular Places were in the high country, refuges from heat, smog and urban stress. These Places included the Front Country (San Gabriel and Big Tujunga Canyons),

High Country and Uplands in the Angeles National Forest; Figueroa-Santa Ynez (Santa Ynez Canyon) and Hungry Valley-Mutau in the Los Padres National Forest; Laguna (Mount Laguna) in the Cleveland National Forest; and the Front Country (Forest Falls winter use and Thurman Flats) and Big Bear in the San Bernardino National Forest. While some Places remain remote and receive relatively little visitation, most Places have increased visitation since the last Plans were approved. National Forest meeting feedback also highlighted the importance of the seasonality of use, with most people still visiting in the summer months from Memorial Day to Labor Day, especially weekends and holidays. However, visitation (especially trail use) is increasing in the “shoulder” seasons of March through May and September through November. In addition, favorable weather conditions can generate heavy, often spontaneous weekend visitation for snowplay and to winter resorts.

Visitor Participation

Based on the NVUM information, table 423: Five Most Popular Activities by Forest by Percent Participation presents a summary of the most popular activities on each of the four southern California national forests.

Table 423. Five Most Popular Activities by Forest by Percent Participation	
Angeles National Forest	
General/other ? relaxing, hanging out, escaping noise and heat, etc.	38%
Downhill skiing or snowboarding	35%
Viewing wildlife, birds, fish, etc. on NFS lands	31%
Hiking or walking	29%
Picnicking and family day gathering	18%
Cleveland National Forest	
Viewing natural features such as scenery, flowers, etc. on NFS lands	72%
Viewing wildlife, birds, fish, etc. on NFS lands	67%
Driving for pleasure on roads	60%
General/other ? relaxing, hanging out, escaping noise and heat, etc.	60%
Hiking or walking	58%
Los Padres National Forest	
Viewing natural features such as scenery, flowers, etc. on NFS lands	41%
General/other ? relaxing, hanging out, escaping noise and heat, etc.	40%
Hiking or walking	38%
Viewing wildlife, birds, fish, etc. on NFS lands	37%
Picnicking and family day gathering	29%
San Bernardino National Forest	
Hiking/Walking	47%
Relaxing	46%
Viewing Natural Features	41%
Downhill Skiing	33%
Viewing Wildlife	31%

This southern California information mirrors national activity patterns reported from NVUM. Nationally, the five most popular recreation activities were viewing natural features (52 percent of national forest visits include this activity), general relaxing (45 percent), viewing wildlife (38 percent), hiking (36 percent) and driving for pleasure (23 percent). Of course, there is much variance between types of visitors to different national forests in different regions of the country.

The National Survey of Recreation and the Environment (NSRE) 2000 to 2001, the Nation's on-going, long-term outdoor participation and environmental/public lands survey provides further important recreation participation information at the market area, state, and national levels. For the southern California national forest market area, major recreation participation activities are:

- Walking for pleasure - 77 percent
- Family gathering - 72 percent
- Visiting nature centers, etc. - 55 percent
- Viewing/photographing natural scenery - 54 percent
- Picnicking - 52 percent

Over 96 percent of Californians participated in at least one outdoor activity during the year 2000. Walking is the most popular activity, although others are growing fast and joining the ranks of activities Californians most favor, including day hiking, bicycling, and viewing birds, fish and wildlife. Nationally, visitors most enjoy walking, family gatherings, picnicking, nature centers, and sightseeing.

Per recreation visitor contact studies (Chavez 2001), the main activities (in order from most to least mentioned) of southern California survey respondents were found to be:

- Picnic
- Relax
- Day hike
- Enjoy or play in the water
- Off-road ride
- Sightsee
- Car camp
- Family gatherings

Responses were influenced by the sites selected and the opportunities afforded by those sites. The primary activities were often site-specific. People go to outdoor recreation sites for benefit outcomes (e.g., improved social condition or family bonding) or for experiences (e.g., solitude and relaxation). The majority of respondents were on repeat visits. Differences between racial and ethnic groups were found in how activities were done (e.g., picnicking). Other studies indicate group size differs by race and ethnicity (Chavez 1992, Carr and Chavez 1993, Chavez 2001).

Table 425: Primary Purpose of Visit (% participation) and table 426: Visit Characteristics displays the primary purpose for and characteristics of visits to southern California national forests, per the Recreation Fee Demo monitoring program by Richer November 25, 2002.

Table 425. Primary Purpose of Visit (% participation)

	ANF	CNF	LPNF	SBNF
Hiking	48	60	44	43
Picnic/Barbeque	30	20	36	37
Driving for Pleasure	25	25	25	25
Watching Wildlife	27	26	29	22
Camping	14	11	44	20

Table 426. Visit Characteristics

Characteristic of Visit	ANF	CNF	LPNF	SBNF
Median # of Hours Spent on Forest	4	4	8	5
Median Driving Time to Reach Forest (in minutes)	50	60	90	75
Median Group Size*	3	2	2	3
# Visits Per Year to National Forest	6	6	8	5

*Most groups described themselves as family and friends

Visitor Satisfaction

Visitor satisfaction with their recreation experience was recently rated, in general terms, by NVUM for Developed Day and Overnight Use Sites and General Forest Areas. Most visitors rate the majority of satisfaction items on the Angeles, Cleveland, Los Padres and San Bernardino National Forests as being in the good to very good range for the values they feel most strongly about.

The California State Parks Report of 1998 stated that 60 percent of Californians are satisfied with outdoor recreation areas and facilities currently available. Based on latent (unmet) demand and public support, Californians believe that nine outdoor recreation activities should have top priority for the expenditure of public funds: walking, trail hiking, camping in developed sites, camping in primitive sites, general nature study, use of open grass areas, picnicking in developed sites, visiting museums/historic sites, and visiting zoos/arboretums. Not all of these opportunities occur on National Forest System lands.

This report also examined differences between Hispanics and members of all other ethnic groups. It indicated that Hispanic visitors (as compared with visitors of other race/ethnicity) are more likely to use and prefer highly developed areas. They also demonstrate more support towards special programs (such as for the elderly and people with disabilities) and are comparatively more likely to be concerned with regulation of behavior in parks and outdoor recreation areas.

Appendix M. Public Comments and Forest Service Response

Introduction

Appendix M contains the detailed response to public comment received on the Draft Environmental Impact Statement for the southern California forest plan revisions released for comment in 2004. These comments are summarized in Chapter 5 of the FEIS, Prominent Themes in Public Comments.

All substantive comments from the letters originally submitted were grouped according to topic. A summary of the specific comments on a topic was written. This statement that summarizes similar comments is called a *public concern*. Public concerns are shown in **bold** under each primary topic heading in this appendix. A code number for each public concern (i.e. **PC 57**) is found at the end of each comment summary. These codes can be used to track comments to specific letters received during the comment period through the use of a database designed for this purpose and are available at each Forest Supervisors Office and in the planning record. The codes are also used for cross reference from other similar comments. For a detailed explanation of the process used to analyze the comments (content analysis), please see Chapter 5 of the FEIS, Comment Analysis Process. For an crosswalk of public concern codes and page numbers, please see page 614.

Each public concern is followed by a response prepared by the Forest Service. These responses help direct the reader to part of the planning documents that relate to the public concern and identify changes made in the documents in response to the comment(s) when appropriate. If no changes were made, then the response includes a discussion of why the documents remained the same.

Agency Response to Comments

Planning and Decision Process

Draft Plan and DEIS General

The Forest Service should write their documents to be clearer and more concise and to make information easier to find. (PC 509)

Part 1 of the revised forest plan (Organization of the Land Management Plan) explains the new format of the plans and describes where to find the various kinds of management direction. Changes were made in the revised forest plans to ease finding or implementing management direction. Part 1 (Strategic Goals) groups each national goal with background, desired condition, and outcome evaluation questions to guide monitoring of desired conditions. Part 2 was reorganized to group forest-level management history and direction together in the "Prospectus" section reducing the number of redundant headers.

As explained in Part 1, Purpose of the Plan and Adaptive Management Framework, the forest plans contain only strategic-level direction. Site-specific project decisions (such as trails maintenance, construction, designation, or closures) are not a part of the strategic-level management direction found in the forest plans. Similarly, the FEIS analyzes scenarios that were developed for each alternative but does not analyze or approve future site-specific projects.

Special designations are organized in the final the same as in the draft. Recommended special designation areas along with associated management direction is located in Part 2 of the revised forest plans. Background, evaluation process, and summarized analyses (e.g., wilderness evaluation, wild and scenic river studies, research natural areas, special interest areas) are included in the FEIS in Appendix D. Inventoried Roadless Areas (IRAs), Appendix E. Wild and Scenic Rivers, Appendix F. Research Natural Areas, Appendix G. Special Interest Areas, and Appendix H. Santa Rosa and San Jacinto Mountains

National Monument. Detailed wilderness evaluations and wild and scenic river inventories are found in the "Reading Room" that is available on the Forest Plan CD and on the Forest Service's website.

Map packets that display zoning, special designation areas, and other details for Alternatives 1 through 6 are available. These are the same packets as were distributed with the draft EIS; however, an errata sheet is added to note map changes. Public comment has resulted in changes to the land use zones (see response 9998) and has been instrumental in refining the mapping, particularly of the selected Alternative 4a.

The FEIS now includes a seventh alternative (Alternative 4a) that was developed in response to public and agency comment yet remains within the bounds of the components analyzed in the draft EIS. Alternative descriptions in the FEIS (Chapter 2. Alternatives, Including the Proposed Action) have been updated to clarify differences and to better reflect how each alternative responds to the significant issues identified in Chapter 1 of the FEIS (Issues). Comparative tables of the alternatives by land use zone acreage are presented in the FEIS, Chapter 2 (table 333: Comparison of Alternative Acres by Land Use Zone). The Alternative Comparison (Land management Plan Decisions) in Chapter 2 helps to clarify the differences in management emphasis between the seven alternatives. Chapter 3 of the FEIS and some of the appendices discuss the environmental consequences of implementing each of the alternatives. The analyses were reviewed by agency personnel and by a science review committee to ensure adequacy. In some cases, the analyses have been rewritten and/or clarified (for example, see the response to PC 1166 in section Management Indicator Species regarding biological analyses).

The Forest Service should not combine the four forests into one document because it makes it difficult to comment on proposed land allocations for a specific forest. (PC 510)

Tables 333 (Comparison of Alternative Acres by Land Use Zone) and 334 (Percent of Each Land Use Zone by Alternative) have been revised to show the zoning acreage by alternative both by forest and for all four forests.

The Forest Service should rewrite the Draft Environmental Impact Statement in order to provide a reasonable range of alternatives, full disclosure of the environmental impacts of the alternatives, meaningful analysis, identifiable standards, environmental justice concerns, compliance with legal mandates, and to inform the public which areas will be affected by OHV use. (PC 514)

See the response to PC 911 (Alternative Development and Range) regarding the development of a broad range of alternatives. The environmental effects from implementation of each of the seven alternatives are disclosed in Chapter 3 of the FEIS, including socioeconomic analysis. Environmental justice concerns are discussed in the response to PC 3052 (Comparison of values, Cost-benefit, Trade-offs).

As described in Part 1 of the forest plan, Purpose of the Plan and Adaptive Management Framework, the forest plan provides strategic level management direction and makes no site specific project decisions. Zoning is the tool used in the forest plan to identify suitable uses. Although suitable uses are thus known, specific planned routes are not known. The right to comment will occur when site-specific NEPA analysis is performed.

Standards are clearly identified in Part 3 of the forest plan.

The Forest Service should include section 7a (1) of the Endangered Species Act under the list of laws, regulations and policy for the protection of federally listed threatened or endangered species. (PC 518)

Please see the final Environmental Impact Statement, Chapter 3, to see section 7a(1)of the Endangered Species Act added to our list for the protection of federally listed threatened or endangered species. The Endangered Species Act may also be found in the listing of legal mandates relevant to the Forest Service in Appendix A of the forest plan.

The Forest Service should describe what recourse the public has when management plans and directives are not followed. (PC 519)

Part 1 of the forest plan (Purpose of the Plan and Adaptive Management Framework) describes the role of the forest plan and how it will be used. Compliance with the Plans is not optional though bear in mind that while the desired conditions in Part 1 are to be attained over time and may require multiple planning cycles, the strategies and Place emphases in Part 2 focus on the next three to five years. Also, the indicators of levels of programs in Part 2 are estimates.

The forest plan (Appendix A) notes that the Forest Service is subject to compliance with our directives system. Directives themselves are national policy and outside the scope of the Plan document.

The public should contact the Forest Service line officer (District Ranger or Forest Supervisor) with concerns about forest plan implementation. The decisions made in the forest plan may be appealed in accordance with 36 CFR 217. Annual monitoring and evaluation reports document progress toward forest plan implementation.

The Forest Service should develop standards for determining potential significant impacts to the environment because it cannot determine whether an Environmental Impact Statement is required without such standards. (PC 520)

An Environmental Impact Statement was prepared in accordance with the National Environmental Policy Act and the 1982 planning regulations.

The revised forest plans make no decisions regarding site-specific project proposals and implementation is subject to future project analyses. However, potential scenarios for each alternative are developed and their impacts are analyzed in Chapter 3 of the FEIS.

In addition, as elaborated on in Part 1 of the forest plans, Purpose of the Plan and Adaptive Management Framework, the Plans do provide a framework to base decisions and propose site-specific projects that will be designed to incrementally move the national forests toward the desired conditions. Project decisions must be consistent with the strategic direction, or amend the plan.

The Forest Service should ensure the Draft Environmental Impact Statement reflects a long-term vision for the forest that effectively balances resource conservation and multiple-use objectives. (PC 523)

The FEIS and the revised forest plan are consistent with all regulatory requirements including the Multiple Use Sustained Yield Act and other applicable laws.

Part 1 of the forest plan articulates the Forest Service niche in southern California, and describes management challenges and desired conditions over the long-term. Part 2 of the forest plan has Place-specific desired conditions and program emphasis to achieve the desired conditions.

The Forest Service should consider the ability of the preferred alternatives to minimize environmental impacts to natural resources. (PC 613)

In response to public comment, the selected alternative includes most of the Critical Biological land use zones that were found in Alternatives 3 and 6 (see table 365: Primary Species within Critical Biological Land Use Zones in Appendix B of the FEIS). Additional changes were made to the land use zone maps and to forest plan goals, objectives, and design criteria, and many of these changes will benefit species-at-risk as shown in the analysis of effects in Chapter 3 of the FEIS. Please compare the environmental consequences of the preferred alternatives to the environmental consequences of the selected alternative as described in Chapter 3 of the FEIS. In Chapter 3, the Forest Service considered the effects of the selected alternative on biological resources, including species-at-risk, water quality and quantity, air quality, geologic resources, cultural resources, and scenic integrity. In this analysis, the Forest Service considered the use of fire as a management tool, grazing, recreation, mineral and energy development,

and impacts from off-highway vehicles, among other effectors. The Forest Service also considered irreversible and irretrievable commitments of resources. Chapter 3 of the FEIS, Environmental Consequences, Resource Management, Biological Diversity section identifies measures that would be used to protect biological resources, including threatened and endangered species. Please see Part 2 of the revised forest plans for a prospectus, which describes the Forest Service's budget history. Part 2 of the revised forest plans also contains a description of expected program emphases. These resource protection measures, budget histories, and program emphases were used in the Forest Service's analysis of environmental consequences in Chapter 3 of the FEIS.

The Forest Service should consider that in tone the DEIS seems to give more weight to environmental laws rather than a balance among all laws applying to national forest lands and their management. (PC 627)

The DEIS/FEIS assume use of all laws and direction as noted in Part 3 of the revised forest plan, as well as of resource protection measures noted in Chapter 3 of the DEIS/FEIS. Equal weight is given to laws unless otherwise clarified by legislative language or court decision. The complexity of addressing environmental laws can lead to a higher quantity of the text relating to that subject.

The Forest Service should address the potential impact of the alternatives on state and federal threatened or endangered species. (PC 895)

Please see FEIS, Chapter 3, Environmental Consequences, Effects on Biological Diversity for a discussion of the effects of the alternatives on biodiversity, including species-at-risk (which include most threatened and endangered species). The potential for threatened and endangered species to occur in the planning area was determined from a number of sources, including the peer reviewed Southern California Mountains and Foothills Assessment (Stephenson and Calcarone 1999), RAREFIND (2004) (a database maintained by the California Natural Diversity Database, California Department of Fish and Game), and letters from the U.S. Fish and Wildlife Service and National Marine Fisheries Service (NOAA Fisheries). The effects of plan decisions on individual listed species are described in the species accounts found in the Reading Room (available on forest plan revision CD and website). In addition, biological assessments of the effects of the selected alternative on federally listed and candidate species were submitted to National Marine Fisheries Service (for southern steelhead) and U.S. Fish and Wildlife Service (all other listed or candidate species). The biological assessments and resulting biological opinions are available via website.

The Forest Service should consider that its proposed definition of degradation is arbitrary and capricious. (PC 3524)

The term 'degradation' is defined in the forest plan glossary as "Lowering of streambed elevation, caused by sediment-transport capacity in excess of the sediment supply. Degradation can be long-term (after the passage of many stream flows) or short-term (caused by a single stream flow)." The Forest Service believes this definition to be reasonable and objective. The term "degrade" in any ordinary dictionary means to diminish in some property or quality. That term and the term degradation are sometimes used in this sense in the analysis also.

The Forest Service should clarify whether the Draft Environmental Impact Statement incorporates the Section 6, Endangered Species Act mandated reviews. (PC 4004)

The Endangered Species Act (ESA) is a part of the analysis in the DEIS. This has been clarified in Chapter 3 of the FEIS. The ESA is also incorporated into the revised forest plan, Appendix A, as one of the federal laws relevant to management of the national forests. Biological Assessments have been prepared to address the ESA and the Forest Service has received biological opinions from the appropriate regulatory agencies. The biological assessments and resulting biological opinions are available on the four national forests' websites.

Monitoring, Inventories, Mapping, GIS

The Forest Service should clarify the mechanism that will be used to incorporate Native American feedback into the operation of the management plan. (PC 17)

Native American feedback and satisfaction can be considered a non-quantifiable measurement of the progress toward the Desired Condition for Tribal and Native American Interests, as described in Part 1 of the revised forest plan. The evaluation (based on professional judgment and other methods) is a form of monitoring to determine if satisfactory progress is being made by the Forest towards the Desired Condition. If the progress is not acceptable, then corrective actions or program focuses could be recommended to obtain acceptable progress.

The Forest Service should monitor and study the forest resources, measure and be accountable for progress toward management objectives, and make this information publicly accessible on a web site. (PC 45)

The Forest Service is committed to monitoring implementation of the forest plan (see Appendix C, Summary of Monitoring Requirements, Part 3 of the revised forest plan). The Monitoring of Design Criteria section in Part 3 of the forest plan describes the Monitoring and Evaluation Report that each national forest will prepare and make available to the public annually. While the revised forest plans have been completed under the 1982 planning regulations, the transition to the final 2005 planning regulations will include an emphasis on effective public involvement in monitoring of the revised forest plan and some use of third party monitoring to increase accountability.

The Forest Service should carefully select the statistics they choose to monitor. (PC 137)

In Appendix C in Part 3 of the forest plan, the Forest Service summarizes the monitoring requirements for each of the three parts of the Plan: Part 1 outcome questions, Part 2 annual indicators, and Part 3 project sampling. After this plan revision has been completed under the 1982 planning regulations, each national forest will be establishing an environmental management system (EMS) in accordance with the new planning rule. This will be another opportunity to incorporate your feedback about use of meaningful indicators. The EMS will give the Forest Service a structure for linking plans and plan implementation and doing adaptive management. It will be a way to check on the environmental effects predicted in NEPA documents, and to have that checking be visible and independently audited.

The Forest Service should develop and maintain a monitoring system for the cost and/or quantity and quality of forest watersheds. (PC 1013)

Watershed data are normally collected and reported in very broad national and regional categories, categories like those described in the Strategic Goals section in Part 1 of the revised forest plan. The Forest Service uses this information to prepare a national Forest Service Performance and Accountability Report. Copies of this report are available at www.fs.fed.us/publications/. Monitoring and reporting requirements are summarized in Appendix C of Part 3 of the revised forest plan. Given our present data management structure and national/regional reporting requirements, we feel we are effectively responding to your concern and comment. While direction for project monitoring is within the scope of the forest plan, specific watershed reporting and monitoring can better be accomplished at the project level of planning and falls outside the scope of this document.

The Forest Service should list measures taken to monitor aquatic life and the condition of riparian habitat to determine stream conditions related to water quality. (PC 1061)

Please see Appendix C in Part 3 of the final revised forest plan for a summary of monitoring associated with all three sections.

The Forest Service should monitor management indicator species using on-the-ground sampling methods such as field surveys rather than remote sensing or aerial photography because there can be significant error in digital data. (PC 1393)

Each management indicator species will be monitored by the method that is most appropriate and efficient for each species. The only species that can be monitored with aerial photography are habitats such as extent of bigcone Douglas-fir and oak woodland. Even for oak woodland, to monitor regeneration will require on-the-ground monitoring as part of the Forest Inventory and Analysis process.

The Forest Service should comprehensively inventory invasive nonnative plants and animals and all riparian areas on the Forests, not only for occurrence of species at risk, but also to collect data on standardized metrics of bird populations such as age and sex ratios, breeding effort/success, and species richness. (PC 1397)

Please see Part 2 of the revised forest plans, Appendix B - Program Strategies and Tactics, WL-1 for a table of priority conservation strategies under the revised plans.

The Forest Service should revise the proposed monitoring and evaluation for Riparian and Aquatic Habitat Conditions to include a statement regarding the objectives, identification of the variables that will be measured (including the response variables), the qualitative or quantitative methods that will be used to collect and then analyze the data, the sampling design and schedule, the inferential models that will be used if quantitative methods are applied, decision and performance criteria, and reporting requirements and schedule. (PC 1495)

Please see final revised forest plan, Part 1, regarding riparian and aquatic habitat monitoring. In addition, please see Part 3 for a description of monitoring of forest plan standards and a summary of monitoring requirements (see Appendix C). As the national forests transition to the 2005 planning regulations, the details you request will be incorporated into an environmental management system.

The Forest Service should recognize the Pacific Crest Trail as a special designation overlay. (PC 2107)

The Pacific Crest Trail (PCT) portion of the FEIS and final revised plans for the Angeles, Cleveland and San Bernardino National Forests has been strengthened, including the theme of each Place that includes a portion of the PCT. The PCT is displayed prominently on the zoning maps for the selected alternative.

The Forest Service should provide maps of Wild & Scenic Rivers designations that show the true impact of the designation relationship between roads and trails, and define the salient geographical or geological features. (PC 2389)

The maps presented in the Atlas of Southern California Planning Maps are not intended for detailed study of potential impacts. The project record contains electronic versions of the maps contained in the Atlas. These maps may be used in combination with other commercially available GIS formats containing salient geographical and geological features in order to assess the effects of potential wild and scenic river designations on public access. The maps contained in the Atlas can also be used in combination with other maps available at a local Forest Service office or map retail outlet. The suitability analysis identifies all salient factors and features and considers their effect on achieving the objectives of the Wild and Scenic Rivers Act.

The Forest Service should produce overlay maps adequate to compare alternatives, see land ownerships, and identify special area designations and land use zones in relationship to salient natural and human made features including important roadways. (PC 3062)

Existing maps for alternatives were not re-published. All of the map layers used in this analysis are part of a Geographic Information System, or GIS. This system allows for electronic overlays of any or all map layers to allow Forest Service specialists to review the relationship between mapped features. This overlay process is the basis for much of the quantitative data presented in the FEIS and revised forest

plans. The map scale was selected to display general patterns of land use consistent with the broad scale strategic decisions being made in the forest plan. Regarding the concern about being able to see the impacts of recommended wilderness on existing roads, FEIS analysis shows that there are zero miles of existing roads in recommended wilderness areas (see table 289: Road miles by objective maintenance level by land use zone). In addition, land use zones were refined in Alternative 4a such that no designated off-highway vehicle routes are zoned in Back Country Non-Motorized. Site-specific analysis is done at the project level where more specific and detailed maps are produced.

The Forest Service should ensure that Geographic Information System technicians update the San Diego Geographic Information Source (SanGIS). (PC 3066)

Existing maps focus on zoning decisions on National Forest System lands only. Private and other government lands are not zoned by this decision and therefore are not represented on these maps.

The Forest Service should provide information on what will be monitored, dates by which monitoring will be initiated, and how often monitoring and evaluation will take place. (PC 3072)

Direction for monitoring of the forest plan implementation has been revised. Monitoring is described in each part and is now summarized in Appendix C of the revised forest plan. The monitoring activities meet direction in 36 CFR 219.12 (k). Regarding the agency's ability to fund such work, we prioritize our budget to ensure we meet the legally required and necessary actions.

The Forest Service should improve the map atlas for Alternative 1 as follows: revise the San Bernardino National Forest maps to accurately reflect the current plan's Wild and Scenic River status; and eliminate the Intermix area along Sawpit Canyon on the Angeles National Forest. (PC 3073)

Alternative 1 represents management direction found in the current forest plans. The FEIS, Appendix E, Background and Study Process, describes the rivers determined eligible in the original land and resource management plan. The San Bernardino Alternative 1 map was in error. The map is not being re-published; however, the error is noted in the map errata accompanying the map atlas. You are correct that there are no designated wild and scenic rivers on the San Bernardino; however, we display the rivers on the map with their status identified as eligible, recommended [to Congress], or designated [by Congress].

Areas mapped as 'Rural' recreation opportunity spectrum class were mapped in the draft forest plan maps as Developed Area Intermix or Urban Rural Interface. In the final revised forest plans, these two zones were consolidated into a zone called Developed Area Interface (for further details on zoning changes, see the general response 9998 Land Use zoning and Overlays, place-based program emphasis). In the selected alternative, a Back Country Motorized Use Restricted zone was added that more accurately reflects the situation desired in Sawpit Canyon on the Angeles National Forest.

The Forest Service should include maps and tables showing all capable, noncapable, suitable, unsuitable lands, and all criteria considered. (PC 3074)

The land use zone maps are included in the revised forest plan. Livestock grazing is generally suitable in designated allotments in all land use zones except in Critical Biological zones. As a result of the capability and suitability analysis for the forest plan revision, additional areas not suitable for livestock grazing such as peninsular bighorn sheep range and critical habitat for coastal California gnatcatcher were determined and mapped. The electronic databases used for these analyses and that contain the data needed to produce maps are a part of the project record. Suitable acres by alternative are found in the FEIS table 108: Grazing Suitability by Forest by Alternative. The criteria considered is found in FEIS Appendix P. Livestock Grazing Suitability Analysis and Appendix J in Part 3 of the revised forest plan. Site-specific suitability analysis for livestock grazing will be a part of future site-specific allotment environmental analysis.

The Forest Service should get current information into Geographic Information System layers (e.g., historic and existing fuelbreaks). (PC 3077)

Update of current inventories is an ongoing process. The final revised plans and FEIS use information available in these inventories at the time of the analysis.

The Forest Service should consider that the Los Padres National Forest Transportation System Map provided in the forest plan analysis is highly inaccurate and cannot be the basis for any credible decision making. (PC 3079)

The roads inventory includes both roads that are part of the classified and unclassified road systems. Part 2 of the revised forest plans identifies a strategy for reviewing unclassified roads on a site-specific basis before a decision is made to add them to the National Forest System roads or trails or remove them.

The Forest Service should consider using RAMAS GIS software for conducting viability analyses. (PC 3081)

The biology team made considerable use of various geographical information system (GIS) and other data management tools during viability analysis. Due to the high degree of variability on species information, a variety of analysis approaches were used. See Appendix B of the FEIS.

The Forest Service should consider using a map to show the most endangered management indicator species to help get a handle on priority areas in which to eliminate motorization, trails, timber/mineral extractions. (PC 3082)

Maps of all federally listed threatened and endangered species are a part of the project record. This information is used in setting priorities for project analysis and implementation. The road and trail analysis presented in the Final EIS also used this information to evaluate the existing National Forest System roads and trails.

The Forest Service should consider that Camp 14 and the non-system road as described in the Red Mountain Inventoried Roadless Area evaluation do not appear on the USGS or Angeles National Forest recreation map. (PC 3084)

Many of the features described in wilderness evaluations are not displayed on maps. The forest plan is not approving site-specific projects such as additions to the road system, merely noting the infrastructure's existence in the context of evaluating wilderness potential.

The Forest Service should identify an explicit process for increasing the likelihood that activities conducted under the auspices of the revised forest plans are implemented in a manner that would be consistent with initial design standards and specifications, precautionary or protective measures, and performance goals. (PC 3525)

Please see Standard 11, Standard 34, and Standard 47 in Part 3 of the final revised forest plans. These standards provide direction for the use of detailed processes that result in substantial consideration of riparian dependent species during project planning and analysis, and during project implementation. Monitoring for effectiveness will occur on 10 percent of the projects where these standards are used (see Appendix C). Standard 24 provides direction to avoid or minimize impacts to listed species. The national forests of southern California will consult with NOAA Fisheries as required under Section 7 of the ESA. We are not aware of any species proposed for listing by NOAA Fisheries but should any fish be proposed for listing we would follow Section 7 direction for conferencing on Proposed Species.

The Forest Service should consider the High Point Lookout Tower facility on the Palomar Ranger District of the Cleveland National Forest as a prime location that could be utilized for research by the Forest Service in the real-time monitoring of forest environmental conditions. (PC 3746)

The response to PC 130 in Collaboration (public, orgs) applies, except that the specific project referenced is a communication project rather than an energy project.

The Forest Service should consider that due to mapping errors, many existing roads (including both classified routes and unclassified routes which could become part of the system during the route designation process) could inadvertently be zoned as Back Country Non-Motorized. (PC 3993)

Large scale maps are subject to this sort of error. No decisions to close roads are made in this plan. Decisions on either adding or removing roads to the system will be made after site-specific analysis using more detailed mapping.

The Forest Service should correct the map boundary incorrectly labeled Ventana Wilderness regarding the private land between the proposed Ventana Place and Arroyo Seco Place named Salsipuedes. (PC 3994)

This mapping has been corrected in the final forest plan land use zone maps representing Alternative 4a that may be found in Part 2 of the Los Padres National Forest Plan. Changes to the next edition of the Forest recreation map will also be made.

Compliance

The Forest Service should prepare a Statement of Energy Effects pursuant to the provisions of Executive Order 13211. (PC 170)

The Forest Service fully supports the National Energy Initiative and would be able to accommodate any proposal based on site specific analysis in any zone other than designated wilderness through the use of adaptive management concepts and the amendment of the revised forest plan. Plan amendment can be accomplished through site specific analysis at the project level. Effects on energy resources is discussed in Chapter 3 of the FEIS in the Minerals and Energy sections for the Affected Environment and Environmental Consequences.

The Forest Service should comply with the Ninth Circuit's directions in the preparation of this forest plan revision regarding preparation of a new Roadless Area Review and Evaluation (RARE) with accompanying EIS. (PC 177)

The process used to evaluate inventoried roadless areas for potential addition to the National Wilderness Preservation System is found in Appendix D. Inventoried Roadless Areas (IRAs) of the FEIS. A full description and analysis of all areas is found on the Southern California Forest Plan Revision website. Evaluation of these roadless areas was conducted by knowledgeable national forest staff in an objective manner in compliance with direction in Forest Service Handbook 1909.12.7.

In addition to identifying wilderness recommendations, the FEIS in Appendix D has added data and analysis to clarify how each alternative proposes to zone the total acreage in the inventoried roadless areas. The final forest plans now have a map of the revised roadless area inventory reflecting the selected alternative.

The Forest Service should incorporate recent legislation and direction including the Healthy Forest Restoration Act, the National Fire Plan, and the Sierra Nevada Forest Plan Amendment into the revised forest plans, specifically the San Bernardino National Forest. (PC 183)

All of the action alternatives reflect integration of the National Fire Plan and the Healthy Forest Restoration Act. In addition, these and all other laws and direction that are applicable to the Forest Service are incorporated into Part 3 of the revised forest plan.

The final Supplemental Environmental Impact Statement (SEIS) and Record of Decision that amended the Sierra Nevada Forest Plan (Framework) applies to those national forests located in the Sierra Nevada mountains and Modoc Plateau as noted in the decision. The framework decision did not amend nor is it incorporated into any of the revised forest plans for the southern California national forests.

The Forest Service should confirm that the Draft Environmental Impact Statement meets the requirements of federal laws. (PC 517)

We believe that the draft revised forest plans and EIS do meet legal requirements. The development of a broad range of reasonable alternatives is described in the response to PC 911 (Alternative Development and Range). The planning team interpreted public input during the development of alternatives and made modifications in order to craft alternatives that are in a consistent format and able to be implemented. The response to PC 715 (Alternative 6) answers requests for further changes to Alternative 6 in the FEIS.

We have made some improvements in the analysis and presentation in response to comment. Improvements to the document's organization or clarity are described in the response to PC 509 (Draft Plan and DEIS General). Compliance with the Endangered Species Act is discussed in the response to PC 22 (NEPA Consultation). Chapter 3 of the FEIS analyzes the impacts of implementation of the alternatives on biological resources, including those associated with recreation use. Part 3 of the forest plan includes standards that mitigate impacts. Viability and management indicator species analyses have been revised--see the responses to public concerns 1166 (Management Indicator Species) and 1125 (Wildlife and Animal Management).

The Forest Service should consider each alternative's protection of biological resources and compliance with the Endangered Species Act, the National Forest Management Act, and the National Environmental Policy Act. (PC 606)

The final revised forest plan contains the measures necessary to meet legal requirements. Note that Part 3 of the forest plan not only contains standards for how to carry out projects and activities, but also a listing of overarching management direction such as the Forest Service Directives that also apply. Chapter 3 of the FEIS (Environmental Consequences, Effects on Biological Diversity) identifies the measures that will be used to protect biological resources including threatened and endangered species. This is followed by discussion of each alternative's effects to threatened and endangered species, to biological resources, and to other national forest resources. The Forest Service completed biological assessments for the selected Alternative 4a and has received biological opinions from the USDI Fish and Wildlife Service and NOAA Fisheries.

The Forest Service should more clearly state compliance with the Multiple Use Sustained Yield Act because current language in the Plan directs forest managers to eliminate legal activities as the easy way of resolving conflicts. (PC 1735)

The Multiple Use and Sustained Yield Act is one of the laws that guide all national forest activities and is referenced in Appendix A in Part 3 of the revised forest plan. The language in question is from the Recreation Participation strategy (REC 3) in Appendix B in Part 2 of the forest plans. This strategy is to ensure that resource or public safety problems are mitigated or eliminated for certain dispersed recreation uses. The intent is not to eliminate the dispersed recreation activity, but rather, lessen or eliminate any harmful effects the activity may have upon the environment or public safety. Specifically, resource problems associated with recreation activities will be addressed using the Adaptive Mitigation for Recreation Uses (see Part 3 of the forest plans, Appendix D).

The Forest Service should coordinate with other agencies in regional recreational trail planning efforts and also update the Forest Plan to meet criteria under the California Recreational Trails Act. (PC 1738)

Partnerships with State and local agencies will continue to be an important method of providing continued recreation opportunities for public use. Emphasis on this fact has been added to the FEIS under Conservation Education and Partnerships. The land use zones identify the type of trails and the use on trails that is allowed in each zone (see Suitability Tables in Part 2 of each forest plan).

The California Recreation Trails Act is a management plan for the over 3,000 miles of recreation trails managed by the California State Parks. As such it does not provide direction for trails or trails networks on National Forest System lands. Many of the guidelines and ideas in that plan are similar to Forest Service Handbook direction for trails and trails construction that guide the development of trails on National Forest System lands.

The Forest Service should comply with the NEPA grazing analysis and the 1995 Recession Act. (PC 2530)

The Rescission Act states that all grazing allotments that were submitted on the Forest Service schedule must have NEPA analysis completed by the year 2010. The requirements for the Act are not discretionary and will be followed. The direction for livestock grazing has not changed because of the completion of the revised forest plan. The administrative requirements for grazing are addressed in the Forest Service Handbook and Manual (FSM 2200 and FSH 2209.13). Part 3 of the Plan includes Design Criteria that will be used on the four southern California national forests to define the parameters for that activity. The reader should note that the combination of Parts 1, 2, and 3 of the forest plan constitutes the strategic direction for the implementation of all management activities over the life of the Plan.

The Forest Service should consider that the plan revision is in violation of the National Environmental Policy Act, the Interior Appropriations Act, the Congressional Review Act, the Paperwork Reduction Act, and the Off-Highway Motor Vehicle Recreation Act of 1988. (PC 3528)

Please see Appendix A in Part 3 of the revised forest plan for a listing of relevant statutes, regulations, executive orders and memorandums, agreements and other management direction applicable to the Forest Service or to the local Forest Service unit. Together, they provide overarching management direction for the southern California revised forest plans. The revised forest plan documents have been completed using the National Environmental Policy Act process and 1982 Planning Rule (see FEIS, Background). Public scoping of the proposed action is described in Chapter 1 of the FEIS, Public Involvement. Regarding the development of reasonable alternatives to a proposed action, see the response to public concern 911 (Alternative Development and Range). In addition, a "no action" alternative is described and fully analyzed in Chapters 2 and 3 of the FEIS. Chapter 3 of the FEIS analyzes the direct, indirect and cumulative effects of implementing the alternatives, including social and economic. The effects analyses assume that under all alternatives, the standards, legal mandates, and management direction incorporated into the Plan are in place. Methodology is documented in the FEIS, Chapter 3, and applicable appendices. Viability and management indicator species processes have been clarified-see the response to PC 1166 (Management Indicator Species).

One respondent contends that the forest plan revision violates the Off-Highway Motor Vehicle Recreation Act because OHV closures are proposed. This Act is not listed in Part 3 of the forest plan (Appendix A) because it is State legislation that provides direction for the management of State Vehicular Recreation Areas, not for federally managed lands.

Alternative 3 would have affected the national forests' OHV systems by recommending wilderness designation in some locations where motorized trails were located (for example, 2W01 and 1W17 on the San Bernardino National Forest). All existing designated OHV routes are retained in the selected alternative. Before any route closure can go into effect, a site-specific NEPA analysis must be completed that supports the need for the change or redesignation. The FEIS does not provide the level of detail required for this type of site specific decision to be made but provides a broader view of how an area on a national forest is intended to be managed in the future. Until this analysis is completed, designated OHV routes will remain open to motorized use. Refer to FEIS, Chapter 3, Motorized Trails, for a full discussion.

No report is required by the Congressional Review Act in order to implement the revised forest plan. There is no requirement for the Forest Service to consult with the Western Governors before publishing

the plan revision. None of the decisions made in the revised forest plan affect administration of existing regulations, including any change to mining operations. Therefore, comments on administrative procedures are outside the scope of the forest plan.

Consultation

The Forest Service should formally consult with the appropriate federal agencies before releasing the Final EIS. (PC 22)

The Forest Service has revised the selected Alternative 4a to provide additional measures for the conservation and recovery of listed species (see Chapter 2 of the FEIS (Alternative 4a (selected)) for a description of Alternative 4a). The Forest Service has conducted formal consultation with the USDI Fish and Wildlife Service and NOAA Fisheries. Biological opinions have been issued by each agency. These opinions indicate compliance with Section 7(a)(2) of the Endangered Species Act (36 CFR 219.19). Evidence of compliance with Section 7(a)(1) of the Act is demonstrated by our: (1) use of land use zone designations (Critical Biological land use zones were designated, in part, to promote the recovery of listed species - please see Appendix B of the FEIS including table 365 (Primary Species within Critical Biological Land Use Zones) for a listing of Critical Biological land use zones and the species they are intended to conserve); (2) use of special area designations (Botanical Special Interest Areas were designated, in part, to promote the recovery of listed species - see Appendix G. Special Interest Areas of the FEIS including tables 339: Angeles National Forest Candidate Special Interest Areas by Alternative , 340: Cleveland National Forest Candidate Special Interest Areas by Alternative , 341: Los Padres National Forest Candidate Special Interest Areas by Alternative , and 342: San Bernardino National Forest Candidate Special Interest Areas by Alternative) for a listing of special interest areas and the species they are intended to conserve); (3) the development of forest plan goals specific to the conservation and recovery of listed species (see Goal 6.2 in Part 1 of the revised forest plans); (4) the development of species- and habitat-specific strategies for the recovery of listed species (see WL1 in Appendix B of Part 2 of the revised forest plans); and (5) by the development of species- and habitat-specific design criteria (see Fish and Wildlife Standards in Part 3 of the revised forest plans).

The Forest Service should publish the required Regulatory Flexibility Agenda and Analyses and ensure public notice and comment requirements to comply with the Regulatory Flexibility Act and Administrative Procedures Act for this proposed and final rule (Plan Revision). Also, the Forest Service should provide for public review of the Fish and Wildlife Service "Opinion of the Secretary." (PC 142)

Publication of a Regulatory Flexibility Agenda and an Initial and Final Regulatory Flexibility Analysis (or summary thereof) is outside of the scope of the land and resource management plan revision process. However, in accordance with NEPA, there is Social and Economic analysis of the proposed action in the draft and final EIS, Chapter 3.

The Forest Service has been in continuous consultation with the USDI Fish and Wildlife Service since the Forest Service published a Notice of Intent to prepare this EIS. Formal consultation could not be initiated until the Forest Service, as the action agency, had formulated a proposed action. The DEIS indicated that the preferred alternative was Alternative 4 for the Angeles, Los Padres and San Bernardino National Forests, and Alternative 2 for the Cleveland National Forest. The Forest Service asked the public to comment on the DEIS and the preferred alternative. These public comments were used to refine the alternatives and to allow the Forest Service to select an alternative. The selected alternative is the proposed action that is the basis of formal consultation (50 CFR 402.14c). Biological assessments were prepared for the selected alternative and sent to USDI Fish and Wildlife Service and NOAA Fisheries. At the conclusion of consultation, the Secretaries of Interior and Commerce, "shall provide to the Federal Agency and the applicant, if any, a written statement setting forth the Secretary's opinion, and a summary of the information on which the opinions in based, detailing how the agency action affects the species or its critical habitat" (Section 7(b)(3)(A) of the Endangered Species Act, as amended). Biological opinions

were received from both the USDI Fish and Wildlife Service and NOAA Fisheries and these opinions are summarized in the Record of Decision. The proposed action did not change as a result of the biological opinion and therefore there is no change requiring further public review. These biological opinions are available for public review during the 90-day appeal period.

The Forest Service should reconsider their need to coordinate with the National Oceanographic and Atmospheric Administration Fisheries with respect to the lack of anadromous fishes on the SBNF. (PC 1099)

The reference to working with NOAA Fisheries regarding steelhead trout management on the San Bernardino National Forest (SBNF) was an error. This statement has been removed from the SBNF Plan.

The Forest Service should recognize that their informal consultation is tantamount to failure to consult with the U.S. Fish and Wildlife Service. (PC 3523)

The Forest Service has been in continuous consultation with the USDI Fish and Wildlife Service since the Forest Service published a Notice of Intent to prepare this EIS. Formal consultation could not be initiated until the Forest Service, as the action agency, had formulated a proposed action. In the DEIS, the Forest Service indicated that its preferred alternative was Alternative 4 for the Angeles, Los Padres and San Bernardino National Forests, and Alternative 2 for the Cleveland National Forest and asked the public to comment on the DEIS and the preferred alternatives. These public comments were used to refine the alternatives and to allow the Forest Service to select an alternative. The selected alternative is the basis of formal consultation. Biological assessments were prepared for the selected Alternative 4a and sent to USDI Fish and Wildlife Service and NOAA Fisheries. The biological assessments can be accessed from our "Reading Room" on the forest plan revision web site and CD. (Also see response to PC 142 in this section.)

Forest Planning General

The Forest Service should clarify existing policy regarding the application of NEPA to future land management plan amendments and if the draft land management plans are action forcing documents. (PC 146)

Chapter 1 of the FEIS, Background, and Part 1 of the revised forest plan, Purpose of the Plan and Adaptive Management Framework describe that the Plans have been developed under the 1982 Planning Rule and require preparation of an EIS. Accordingly, land management plan amendments are subject to NEPA. Part 1 of the Plan was edited to delete the statement that "a plan by itself is not an action-forcing document and therefore is not a major federal action having a significant effect on the quality of the human environment." Although the strategic concept would support the argument that forest plans, by themselves, are not action-forcing or ground disturbing with significant effects on the human environment and would not require an Environmental Impact Statement (EIS), the statement that the revised forest plans are not action forcing documents has been removed since these revisions are being done to comply with the requirements of the 1982 planning regulations including the preparation of an EIS.

The Forest Service should clarify who chose the preferred Alternative 4 for the San Bernardino National Forest. (PC 601)

The Regional Forester is the responsible official who makes the decision to select the management alternative in the final EIS that will be implemented on each national forest.

Cumulative Effects

The Forest Service should address cumulative effects in the EIS, in particular of forest actions on communities and of development proposals on the forests. (PC 173)

The Forest Service participates in planning with other agencies and is often involved in comment on development proposals. However, preventing the encroachment of private development on National

Forest System land or decisions regarding zoning and housing density are beyond Forest Service jurisdiction and outside the scope of decisions made in a forest plan.

The effects of each national forest management alternative on communities (e.g., economics and fire protection) in the planning area is discussed in Chapter 3 of the FEIS. Also, the effects from development on National Forest System lands are discussed generally in Chapter 3 of the FEIS (e.g., the effect on habitat), and known or reasonably foreseeable large-scope type proposals are mentioned.

The Forest Service should clearly state the cumulative impacts of a Critical Biological zone designation. (PC 630)

The benefits of designating important habitat areas as a Critical Biological land use zone are described in the species accounts for the following species: Andrew's marbled butterfly, Arrastra Creek blue butterfly, arroyo toad, bald eagle, California gnatcatcher, California red-legged frog, carbonate plants, Castilleja cinerea, Dodecahema leptoceras, Ehrlich's checkerspot butterfly, least Bell's viro, mountain yellow-legged frog, Pebble Plain plants, Poa atropurpurea, Santa Ana sucker, San Bernardino kangaroo rat, southwestern willow flycatcher, Shay Creek unarmored three-spine stickleback, Taraxacum californicum, Thelypodium stenopetalum, unarmored three-spine stickleback, and vernal blue butterfly. These species accounts are found in the Reading Room and include literature citations and/or unpublished data to support the analysis contained therein. The difference in predicted outcomes under each of the alternatives as a result of different combinations of Critical Biological land use zone designations is shown in Chapter 3 of the FEIS.

Consistency with Others (plans, agencies)

The Forest Service should consider including in the Cleveland National Forest Plan information on management that conforms to regional open space programs and manage those lands consistent with requirements associated with the needs of Federally and State listed species as well as important habitat needs. (PC 175)

We welcome continuing to work together with counties to meet habitat and species needs (see objective WL 1 regarding working with counties in Part 2 of the forest plan). Adjoining agency land planning was a consideration in land use zoning of National Forest System land.

Management of habitat will be consistent with the management requirements associated with the needs of Federally- and State-listed species as well as important habitat needs, as described in all three parts of the forest plan. In addition to management direction published in the Plan, species guidance may be found in the "Reading Room" on the forest plan revision web site and CD.

The Forest Service should provide consistency from one forest administration to the next. (PC 176)

The joint forest plan revision effort facilitates consistency in planning. However, the selected alternative which is reflected in each forest plan does allow for forest-specific management strategies, tactics or standards to reflect the differences between the national forests.

The Forest Service should review consistency with other plans regarding Back Country designations in the northern part of the Los Padres National Forest. (PC 181)

Based upon public comments, the national forest has adjusted the selected alternative to more accurately reflect the management intent for the national forests over the life of the Plan (10 to 15 years). As an example, many areas that were previously designated as Back Country have been adjusted to Back Country Motorized Use Restricted zoning that is used to restrict public motorized access to these zones while allowing for administrative access, as necessary, to manage the land and resources. The zoning and the applicable direction for the Big Sur coast are subject to consistency determination by the California Coastal Commission. The California Coastal Act and the Big Sur Coast Land Use Plan are referenced in the list of laws and guidelines in Part 3 of the Plan. Note in the Program Emphasis for the Big Sur Place that there are no new roads proposed or planned for this Place.

The Forest Service should incorporate the specific standards recommended in the recovery plan recently completed for the Nelson's Bighorn Sheep (Holl et al. 2004). (PC 579)

The recently completed Implementation Strategy to Restore the San Gabriel Mountains Bighorn Sheep Population is incorporated into the Nelson's Bighorn Species Account and incorporated by reference in Appendix H as a document used to guide management of imperiled species.

The grazing use standard you reference was written as a standard for areas grazed by permitted livestock. The nine mile standard in the Nelson's bighorn strategy precludes sheep and goat grazing, and there is no permitted cattle grazing in San Gabriel sheep habitat. Therefore, there is no permitted grazing use in any bighorn sheep habitat where the grazing use standard would need to be applied.

Decision Making Philosophy

Decisionmaking Philosophy (How, not what, to decide)

The Forest Service should manage national forests with long-term, sustainable objectives. (PC 25)

The long-term sustainable goals outlined in Part 1 of the forest plan paint the picture of the conditions desired for this and future generations. The objectives in Part 2 are strategies to move towards the desired condition. The objective to integrate budget and performance is tied to the emphases and outcomes of the selected management alternative which is reflected in the forest plan. With regard to your concern about timber production, the forest plan does not define timber as a suitable use and there is no assigned [timber] sale quantity for the national forests of southern California. Vegetation treatments would be proposed but to meet other objectives. The prospectus in Part 2 estimates some of the project categories and treatment needs.

Agency Organization, Funding and Staffing

The Forest Service should proactively hire diverse individuals, maintain a proportionately representative employee base, and seek to implement measures and programs that will not continue the subtle discrimination that leads to inequitable access, participation and distribution of resources. (PC 3536)

The Forest Service practices non-discrimination in hiring, and in program delivery as required by US Dept. of Agriculture policy and as reiterated in the Forest Service Strategic Plan. These policies are limited to the Forest Service workplace (including those we conduct business with) and to the lands within Forest Service jurisdiction. It is known that ethnic group participation in national forest activities is not always representative of the demographic mix of the larger surrounding population. Nevertheless, the national forests have anticipated the need to serve these ethnic groups and have created appropriate program emphasis, particularly in recreation, to address that need. See response to PC 1844 (Environmental Justice). It is beyond the scope of the document to address transportation needs and income disparities of underserved and low-income populations beyond the boundaries of the national forests. Specific cooperative projects may be undertaken to expose underserved populations to national forest activities, management, and the mechanisms of ecosystems, but those projects occur below the programmatic level of this document. See also the response to PC 94 (Heritage Resources Management) and PC 3052 (Comparison of values, Cost-benefit, Trade-offs).

Staffing General

The Forest Service should make project managers accountable. (PC 232)

Line officers hold the responsibility for implementing the forest plan. As noted in Appendix C of the forest plan, we welcome public participation in the monitoring and evaluation of forest plan implementation.

The Forest Service should select a management plan that can realistically be managed by the current US Forest Service staffing level. (PC 234)

The alternatives considered propose accomplishments that are based on reasonably foreseeable total budgets for each national forest and are considered "implementable." However, staffing levels are outside the scope of decisions made in the forest plan.

Public Involvement and Collaboration

Public Meetings

The Forest Service should improve public involvement during the comment period: host more open houses with a greater variety of times and locations to outreach to more people and more diverse communities; offer different types of meetings; and provide a comfortable environment conducive to good communication. (PC 105)

The Forest Service conducted public participation activities for the revision of the land management plans during several phases in the planning process, in accordance with 36 CFR 219.6 (see Chapter 1 of the FEIS, Public Involvement). The purpose of the public participation activities was to introduce members of the public to the planning process and encourage their involvement, provide a forum to facilitate understanding of the draft forest plans and analyses, listen to feedback, and help prepare the national forests' stakeholders to submit comments.

It was our intent to outreach to a broad audience of stakeholders. The four southern California national forests cover approximately 3.5 million acres in ten counties in southern/central California. During the draft plan review phase in spring/summer 2004, twenty-nine open houses were hosted in communities in and surrounding the national forests, drawing attendance of at least 1,511 persons. (This figure is derived from the sign-in sheets. Many other people attended but chose not to sign in.) Most open houses had bilingual employee(s) available to meet with the public. Open houses in the cities of Los Angeles, Fontana, and Riverside included presentations in Spanish and English. All meetings had materials in Spanish and English.

The Forest Service employees who participated in the open houses heard a lot of positive feedback from the public about the open house format. They liked the one-to-one interaction. The format offered them an opportunity to learn about the process in a non-intimidating atmosphere, at their own pace, and with the ability to ask questions as they reviewed the maps and materials. In general, we believe that the open houses served their purpose to help the public gain an awareness and understanding of the draft documents and how and when to comment. The approach allowed people to ask questions or listen as others asked questions, as well as participate in sharing information or opinions, and encouraged learning by both the public and the Forest Service staff. The Forest Service heard from an inclusive mix of long-time and new stakeholders.

In addition to hosting open houses throughout southern California, the national forests used a variety of activities to communicate with the public about the draft EIS and forest plans including: making presentations to organizations and community groups; distributing English and Spanish versions of posters, flyers and other materials, as well as posting English and Spanish versions of newsletters and other information on our website; hosting displays and making presentations at a variety of venues (e.g., shopping mall, environmental fair, county fair, Burn Run Expo); and mailing materials inviting participation to organizations, community groups, chambers of commerce and news media. The open houses and other outreach efforts were planned to include underserved populations and communities.

The Forest Service should publicize the comment period and provide appropriate notification of public meetings to the public. (PC 56)

The Forest Service solicited comments on the draft EIS per 40 CFR 1503.1 and Forest Service Handbook 1909.15 Chapter 23. The Notice of Availability of the Draft EIS and Forest Plans was published in the Federal Register on May 14, 2004. Each national forest issued press releases to their media of record (local and regional newspapers, radio and television stations) about the availability of the draft documents and the comment period as well as public involvement opportunities. In addition, many media outlets did stories about the open houses that included information on how to submit comments on the forest plan. Several weeks in advance of the 90-day comment period (May 14 to August 11), the Forest Service announced the open house schedule on our website as well as in a mailer sent to approximately 8,500 individuals and organizations. Flyers with open house dates and other public participation information were posted widely at national forest facilities and elsewhere. The information was also included in the quarterly "Schedule of Proposed Actions" newsletters issued. The Public Involvement for the forest plan revision is described in Chapter 1 of the FEIS.

The Forest Service should improve communication with private landowners within national forests, including those property owners with lands surrounding proposed wilderness designations. (PC 104)

We have made strong efforts to include potentially interested or affected groups and individuals in all phases of the planning, including private landowners within the national forest (see FEIS, Chapter 1, Public Involvement). Of these rounds, some of them (such as the fourth round regarding development of alternatives) involved asking the public for input on special designations including wilderness. Your specific concern regarding access roads was considered by the Forest in their wilderness evaluation. However, the final decision rests with the United States Congress. Congress has the sole authority to designate wilderness and associated boundaries.

The Forest Service should disclose substantial direct compliance costs to state and local governments. (PC 3530)

There is no direct compliance cost to state and local governments regarding designation of critical habitat on federal lands. The revised forest plan decisions regarding land use zoning, suitable uses and design criteria and standards for managing any listed species apply only to Forest Service jurisdiction lands. Management measures proposed for federal lands do not apply to private lands. Only those species listed as threatened and endangered by the U.S. Fish and Wildlife Service and the National Oceanic & Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) are of concern to private landowners when they occur on their private property. Even then, private lands are not subject to Forest Service management restrictions, but are subject to the stipulations of direct consultation with the U.S. Fish and Wildlife Service and NOAA Fisheries.

Collaboration (public, organizations)

The Forest Service should explore ways to cooperate and collaborate with all interested parties, including other agencies, surrounding communities, industry, and interested public. (PC 107)

We agree for the need for cooperation and collaboration with other agencies and surrounding communities to achieve common goals. The revised forest plan sets this strategic course. Implementation will involve consideration of specific projects and activities to then move towards these forest plan objectives and goals. The public is encouraged to participate in the monitoring of implementation of the revised forest plans. (Monitoring is summarized in Appendix C of the forest plan.) Public participation in revised forest plan monitoring as well as some third party monitoring is required by the 2005 planning regulations and is intended to enhance accountability.

The Wildland Fire and Community Protection section in Chapter 3 of the FEIS notes ongoing and anticipated collaboration to develop community fire plans. There are a number of local community-based Fire Safe Councils that are instrumental in planning for and effecting change in making their communities more defensible. The local national forest can assist the public in contacting a Council close to them.

People interested in participating in planning projects on the national forests should contact the local Forest Public Affairs Officer to be placed on a mailing list to receive a quarterly list of NEPA (National Environmental Policy Act) projects. They may then contact the identified project leader to become involved in any specific project of interest.

We encourage anyone interested in participating in volunteer activities on the national forests to contact the local national forest Volunteer Coordinator or Public Affairs Officer. You may also find out more about ongoing activities by visiting your local national forest's website:

[www. fs. fed. us/r5/angel](http://www.fs.fed.us/r5/angel) es, www. fs. fed. us/r5/cl evel and, www. fs. fed. us/r5/l ospadres, or www. fs. fed. us/r5/sanbernardi no.

The Forest Service should consider guidance, expertise, and resources from the Sierra Club and off-highway vehicle (OHV) community in formulating and monitoring its final plan. (PC 109)

The four southern California national forests value the contributions made by organizations and community groups such as the Sierra Club and its members and the OHV community. The national forests considered the input on wilderness evaluations and made changes as appropriate (see the response to PC 32 in Public Opinion (Use of Comment, Vote, Majority)). Responses from the various segments of the public indicate that both the Sierra Club and the OHV community actively participated in the public response process for the development of the FEIS. We will continue to utilize the expertise of these organizations and groups in the ongoing management of the national forests, and encourage all of the national forests' stakeholders to participate in monitoring of forest plan implementation, which is summarized in Appendix C of the revised forest plan.

The Forest Service should consider the use of partnerships and volunteer programs. (PC 112)

A number of respondents suggested specific actions related to using partnerships and cooperation to achieve mutual goals. Cooperation and collaboration with local and state agencies to address community protection, threatened, endangered, proposed, candidate, and sensitive species concerns, roads or trail maintenance, and recreation opportunities were suggested, as was cooperation on invasive species with landowners and permit holders. Specific partnerships suggested to create or continue include those with community groups or trade, off-highway vehicle, motorcycle, amateur radio, trails, and land trust organizations, in order to better accomplish work and manage resources.

The Forest Service agrees on the importance of continuing or creating partnerships with the public and other agencies, and in encouraging and nurturing volunteerism, in order to provide better services and accomplish work. All of the national forests utilize volunteer programs and emphasize educational programs to varying degrees. Volunteer trail maintenance and other programs are currently in place on all four southern California national forests and increased emphasis is anticipated. Much of the vitally important work associated with our national goals (such as managing invasive species, recreation, or healthy forests) will be at least partially accomplished by emphasis on partnership strategies as described in Part 2 of the revised forest plan, Appendix B. For example, REC 4 strategy is designed to encourage the use of volunteers and acknowledges the vital role volunteers have in each national forest. The emphasis on cooperation and partnerships in specific Places on the national forests is mentioned in Part 2 of the forest plan, Place-Based Program Emphasis.

We agree that these partnerships also lead to better understandings of the national forests and each other, as well as meeting educational goals. The Forest Service states its intent to enlist the support of local communities, partners and volunteers to promote land stewardship in Part 2 under Program Objectives (Public Use and Enjoyment).

Identification of specific projects and partnerships (as requested in some comments) is outside the scope of the forest plan.

The Forest Service should become aware of, and utilize new technology through a collaborative effort. (PC 114)

Collaboration on the revised forest plans has included the science community. A Science Consistency Review of the draft EIS was completed and is included in Appendix Q of the FEIS. In addition, the revised forest plan adapts to changes indicated by monitoring. Incorporation of new science or technology is a part of the adaptive framework, as discussed in Part 1 of the revised forest plans.

The Forest Service should create advisory committees with representatives from diverse communities in the planning process. (PC 115)

Chapter 1 of the FEIS, Public Involvement, describes the public involvement process during planning, which included efforts to be inclusive of diverse communities. In the process of developing the revised forest plans, the Forest Service participated in numerous presentations and collaborative meetings with interested organizations and community groups. Although we did not choose the more formal tactic of creation of an advisory committee for this planning process, the national forests intend to continue partnerships and collaboration upon implementation of the revised forest plans. (See also the response to PC 112 in this section.)

The Forest Service should expand its now exclusive dependency on Western Regional Corridor Planning Partnership (WRCPP) mapping efforts as the sole basis for regional utility corridor planning and include other credible planning sources and infrastructure planning organizations. (PC 130)

The Forest Service is a signatory participant in the WRCPP's Western Regional Corridor Study. We are using that document to characterize the demand for future utility infrastructure, not to determine the exact location of a designated corridor. We recognize the existence of the other project proposals. See Energy and Utilities for further discussion regarding energy development in the revised forest plans.

The Forest Service should incorporate language into the Final Environmental Impact Statement that allows the Forest Service to continue to participate in the South Coast Missing Linkages project. (PC 551)

The management direction language in the final revised forest plan is consistent with continued Forest Service participation in the South Coast Missing Linkages project. For example, in Part 2 of the forest plan see Program Objectives (Resource Management) and Appendix B, Program Strategies and Tactics (LINK 1, Habitat Linkage Planning).

The Forest Service should continue to participate in public forums and dialogues regarding southern California water policy, development and use. (PC 1037)

Under all alternatives, the national forests will continue to work with watershed interest groups, water rights holders, flood control authorities, hydroelectric power and water supply utilities, and other river and watershed management organizations, whenever possible, as described in Appendix B (Program Strategies and Tactics) of Part 2 of the final revised forest plan.

The Forest Service should consult the water rights holders in and around the Angeles National Forest on the management plan and consider that the plan standards regarding imposing instream flow recommendations are subject to major limitations, namely water rights. (PC 1072)

We agree that consultation with existing water rights holders would be a necessary part of any project implementation. It should be noted, however, that the revised forest plans are expected to have no effect on existing agreements. All existing agreements, contracts, claims, water rights or permits are valid and are expected to continue.

Forest plan standard S46 regarding water diversions has been modified to more clearly reinforce the Forest Service's long established position of taking into account existing water rights in our project planning process (see part 3, standards). We have also addressed this concern in strategies in Part 2, Appendix B, of the revised plans (e.g., WAT 2, Lands 2) and in Appendix I in Part 3 (land acquisition criteria). Our national policy and procedures concerning water rights are more fully developed in Forest Service Manual 2540 (Water Uses and Development) and Hydroelectric Handbook FSH 2709.15.

Your concern can best be addressed at the project level of planning. A listing of proposed watershed projects is available by contacting the national forest offices directly.

Cooperating Agency

The San Bernardino National Forest should work closely with San Bernardino County in establishing priorities for community protection efforts. (PC 15)

We agree. The San Bernardino National Forest Plan, Part 2, Management and Administration, notes that the national forest will enlist the support of local communities, partners and others to enhance public service and promote land stewardship. However, the setting of priorities for projects or activities is outside the scope of the forest plan.

The Forest Service should engage in more interagency coordination and support to ensure the interconnectedness of all trail systems, such as the California Riding and Hiking Trail in the Cleveland/Sweetwater Place, regardless of individual Agency jurisdictions. (PC 1672)

In general, non-motorized trail-based recreation is suitable in all land use zones. Goal 3.1 in Part 1 of the revised plan states that the road and trail system is connected to state, county or local public roads and trails. In Part 2, Appendix B, Strategy Trans 3 addresses the commitment to link the non-motorized trail system to community networks and support interagency coordination. The decision to construct new trails or to convert a particular road to a hiking trail will be analyzed and determined through site-specific analysis. Environmental analysis or decision regarding specific non-motorized trail connections is not within the scope of the forest plan. A detailed focus on the desired alignment for the California Riding and Hiking Trail, including the intent for, or disposition of, any particular trail or road is not within the scope of this Plan. During the project level analysis the national forest will work with partners like the State and Counties as well as the public prior to making any decisions.

Adequacy and Availability of Information

The southern California Forest Plan Revision website made public participation easier; < and >

The southern California Forest Plan Revision website made public participation harder. (PC 52)

Southern California was a pilot project for developmental software which used web technology that was new to many people, or used the technology in a new way. Feedback during the comment period was appreciated as both positive and negative comments helped us to make improvements. Prior to publication of the final documents, the website navigation was revised and simplified. Final maps were created as static graphic files rather than using the interactive GIS format which is slow to download unless a user has broadband connectivity. Other technical notes were forwarded to the software development team for software improvements for future efforts. User instructions and help screens were revised and simplified.

The Forest Service should provide information regarding what will be done in fuels management, species protection, or riparian preservation. (PC 68)

The revised forest plan provides strategic-level direction. Part 1 describes the long-term goals and desired conditions related to fuels, species and riparian area management. Part 2 indicates the level of resource management activity as well as objectives, strategies and tactics related to those programs. However, we believe that you may be referring to the Schedule of Proposed Actions (SOPA) that informs people of

specific environmental analyses currently in progress or recently completed on a national forest pursuant to the National Environmental Policy Act (NEPA). To receive a SOPA, contact your local Forest Public Affairs Officer. This information is outside the scope of the forest plan but is a part of implementation.

The Forest Service should either provide referenced documents, in particular the Biological Opinion February 27, 2001, or point to where they may be viewed/copied. (PC 73)

The Biological Opinion (2/27/01) (a final document for the current land and resource management plans) is and has been available from national forests. It was also available on the Forest Plan Revision website until the September 2005 move of forest plan revision information onto the four southern California national forests' websites. The content of that biological opinion is not one of the decisions to be made in the revised forest plan. It is not until a selected alternative is identified that the agencies work toward a final biological opinion. A biological opinion has been prepared based on Alternative 4a as described in the Final Environmental Impact Statement. This document is available on the four southern California national forests' websites or by request as part of the planning record. If the public has difficulty finding any documents cited in the Bibliography, they may contact the Forest Planner on the local national forest, who can help point to where a document may be viewed.

The Forest Service should provide a classification analysis table for eligible streams on the Cleveland and San Bernardino National Forests. (PC 74)

Each national forest determined the highest potential classification for all eligible river segments. Their reasons are discussed in the classification section of the eligibility inventory. (These detailed reports are in the Reading Room on the forest plan revision CD and on the national forests' websites.) The Los Padres National Forest elected to use tables to display their basis for classification; however, this is not required. Management direction for classification of wild and scenic rivers is discussed in Appendix E of the FEIS, Background and Study Process.

Detailed information including potential classification by segment is displayed in the FEIS (see table 164, Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, ANF, table 165, Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, CNF, table 166 Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, LPNF, and table 167, Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, SBNF). In addition, on the Los Padres National Forest, eligible rivers subsequently were studied for suitability. The resultant recommendations to Congress for wild and scenic rivers include recommended classification.

The Forest Service should consider that it is difficult for readers and decisionmakers to understand the proposed measures and environmental consequences from the documents. (PC 78)

Some changes were made to improve organization and clarity in the FEIS—see response to PC 509 under Draft Plan and DEIS General. The FEIS table of contents was streamlined to display only the main headings of Affected Environment and Environmental Consequences along with functional areas. Under Environmental Consequences, the sections are retitled to clarify that the content is organized by the resource being affected. For example, the effects of roads or recreation on species are located in the section “Effects on Biological Diversity.” Some clarification of environmental consequences by alternative was done and noted in the response to specific public comments.

In addition, to help the reader find tables, a table of contents for tables was added and each reference to a table should include a table number and title.

Chapter 3 of the FEIS was revised to clarify the Affected Environment for Biological Diversity and Effects on Biological Diversity. We have also improved the explanation and display of viability outcome statements in FEIS Appendix B, Species Viability Evaluation Process.

The survey protocols for plant species-at-risk that were previously in Part 3 of the forest plan, Appendix C, Species Habitat Suitability and Survey Protocols are now located in the project record. The project

record includes survey protocols for both plants and animals where such protocols exist and have been agreed upon with USDI Fish and Wildlife Service.

Species guidance documents are listed in Part 3 of the revised forest plan, Appendix H. Species accounts are available in the Reading Room on the CD and national forest websites.

The Forest Service should improve the clarity of tables presented in the Draft EIS regarding economic efficiency, air quality, and species of concern. (PC 79)

The tables in the FEIS were revised where necessary to clarify terms, units of measure or symbols. For example, table 233 (General Comparison of Alternative Air Quality Emissions) has been revised to define terms and symbols and make minor changes to the content.

The findings in FEIS tables 113 (Number of Animal Species of Concern in Each Threat Category) and 114 (Number of Plant Species of Concern in Each Threat Category) regarding threat assessment of species of concern are discussed in Chapter 3 of the FEIS, Effects on Biological Diversity, and in Appendix B. Species Viability. We retained tables 113 and 114 and deleted the redundant tables 188 and 189.

The economic efficiency analysis in the FEIS has been clarified in table 177, Present Values of Costs and Benefits by Alternative in \$ X 1,000, to specify that the data are in \$ X 1,000, that the discounting period is 50 years, and that the data include all four southern California national forests grouped together. The text reference to table 177 in Chapter 3, Effects on Economic Environment, will also be expanded and clarified to explain the data and include the rationale for grouping the national forests in the analysis.

The Forest Service should review the process used in designations of Millard Canyon and Fisherman's camp as Research Natural Areas. (PC 80)

Fisherman's Camp, Cahuilla Mountain, Hall Canyon, Horse Meadow, Broom Flat (south) and a sixth area in the Raywood Flat addition to the San Gorgonio Wilderness (Millard Canyon) were recommended for establishment as research natural areas (RNAs) in the 1989 San Bernardino National Forest Land Management Plan. Please see pages 3-14 in the 1989 Plan. Establishment dates for these RNAs were as follows: Cahuilla Mountain (1989), Hall Canyon (1990), Millard Canyon (1991), Fisherman's Camp (1998), and Horse Meadow (1998). Broom Flat has yet to be established and is again recommended for establishment in the San Bernardino National Forest's revised forest plan. The public involvement for the forest plan revision (including during scoping) is described in Chapter 1 of the FEIS, Public Involvement.

The Forest Service should provide a list of queries used with Geographical Information System software that was used to analyze the six alternatives. (PC 90)

Most of the queries used Microsoft Access. The Access database was developed by overlaying GIS layers and exporting the resulting tables to Access, then summarizing the data in Access. These queries are a part of our project record.

The Forest Service should post the habitat accounts done by Jones and Stokes in order to allow the States Inventory lists be brought up to date. (PC 91)

The species accounts that were available on the forest plan revision website and on the draft plan revision CD during the comment period were updated versions of the work previously done by Jones and Stokes. These species guides are now available on the final plan revision CD and the national forest websites.

The Forest Service should include referenced sections of the Forest Service Handbook in the appendices. (PC 92)

Appendix A in Part 3 of the forest plan refers the reader to the national website to review Forest Service directives. A complete listing of national and regional Forest Service policies can be found in the Forest

Service Manuals and Forest Service Handbooks. Together, these are known as the Forest Service Directives System and are available on the national website, www.fs.fed.us/im/directives.

The Forest Service should consider using both metric and U.S. units of measure in the final plans. (PC 95)

We have used only the U.S. unit system in the final documents to help improve readability due to the number of tables that would have had to be duplicated otherwise.

The Forest Service should provide more information about the effects of special designation overlays. (PC 728)

Both land use zones and special designation overlays are explained in Part 2 of the revised forest plan. Special designations and their potential effects are described in the various sections in Chapter 3 under the section of the resource being affected. In general, special designations provide additional protections beyond those provided in the underlying land use zones.

The Forest Service should clarify how .3 percent of the Back Country Non-Motorized zones are potentially accessible for dispersed recreation. (PC 847)

Table 333 displays the total number of acres in each land use zone by alternative. Approximately 2 percent of the acres would be accessible for dispersed vehicle camping. This percentage is lower in the Back Country Non-Motorized zone because only the edges of this zone would be accessible by vehicle.

The number of acres available for dispersed vehicle camping is also lower in Back Country Motorized Use Restricted zones in Alternative 4a because not as many acres are accessible from open public roads.

The Forest Service should clarify the Back Country designations including appropriate legislative support and use of scientific documents, and should also consider that it uses information unreviewed by the national academy of sciences and creates de facto wilderness. (PC 852)

In Part 2, Land Use Zones section, the Forest Service has clarified definitions for Back Country, Back Country Motorized Use Restricted, and Back Country Non-Motorized (see also general response 9998 in Land Use zoning and Overlays, place-based program emphasis). Back Country Non-Motorized is not the same as wilderness, in that it retains a low level of development but has a different and broader spectrum of allowed uses than wilderness-see the Suitable Uses Tables in Part 2 of the Plan. Furthermore, see Appendix D. Inventoried Roadless Areas (IRAs) regarding how the process used to evaluate and recommend inventoried roadless areas or undeveloped areas for wilderness conforms with national policy.

The agencies and conservation organizations involved in the South Coast Wildlands Missing Linkages project are noted in Appendix B, Landscape Linkage Identification Process. Review by the National Academy of Sciences is not necessary to ensure scientific validity. The zoning in the revised forest plans considers biological data in zoning; at the same time, zoning is also consistent with multiple use management. Although a wide range of recreation opportunities are offered overall, the suitable uses vary by area and all uses or opportunities are not offered in all areas.

The Los Padres NF should clarify information relating to how restoration acreages are generated. (PC 1488)

Each national forest discusses their priorities for the next three to five years in Program Emphasis and Objectives section of Part 2 of the revised forest plan. The Los Padres National Forest plans to restore 100 acres/year. This area will primarily be related to fire and insects and disease. Other estimated program levels are 200-300 acres of habitat restoration per year and 250 acres per year of control measures where invasive plants and animals are known to be adversely affecting listed species. In the same section, forest thinning and fuels treatments are addressed separately.

These program levels are estimates. In the draft forest plan, the estimates reflected the preferred alternative. In the final forest plan, they reflect implementation of the selected Alternative 4a.

Public Opinion

Public Opinion (Use of Comment, Vote, Majority)

The Forest Service should consider all public comment (including local communities) when developing the revised forest plans and not give preferential consideration to special interest or political groups. (PC 32)

All public comments were reviewed and considered without preferential treatment during formulation of the FEIS. Many letters were received by individuals and some by government and elected officials. Many letters were submitted by organizations representing specific interests. Some of these organizations and businesses have economic ties to the national forests. Some organizations represent individuals that are concerned with recreational issues and/or environmental values. Regardless of sender, all comments received during the public comment period were reviewed and evaluated using the same content analysis process. Chapter 5 of the FEIS (Comment Analysis Process) describes how comments were reviewed and public concern statements created. In addition to public comments, review by the agency was also incorporated.

The response to PC 105 in Public Meetings describes our efforts to make communities feel included in the decision making process. We believe that the selected alternative is responsive to comments from local communities especially for fire protection concerns.

The Forest Service should consider objections to projects incorporated by reference including in the Notice of Intent for Proposed Action for the Southern California National Forests. (PC 35)

The public input received during scoping in response to the Notice of Intent and Proposed Action for the Southern California Forest Plan Revisions was used to formulate the significant issues to be addressed in the revised forest plans and Environmental Impact Statement. Thus, the comments are all considered but do not receive responses such as in the FEIS phase. Later rounds of public involvement helped to develop a range of alternative approaches to address the issues, as well as the purpose and need, of the forest plan revisions. (See the FEIS, Chapter 1, Public Involvement.)

Chapter 1 of the FEIS (Other Related Efforts) describes other analyses that are related to but not part of the scope of the southern California forest plan revisions FEIS. These other related efforts include the Los Padres Oil and Gas Leasing Study FEIS and Record of Decision, which is incorporated by reference into the Los Padres National Forest Plan. Public involvement for such related efforts was conducted separately.

The Forest Service should err on the side of being inclusive when deciding which comments are substantive. (PC 38)

All letters were read and all comments identified in the letters were considered, whether substantive or not—see Chapter 5 of the FEIS, Comment Analysis Process. Substantive concerns along with responses from the Forest Service are published in this appendix, in accordance with CEQ regulations, which require response to in scope and substantive comments. In addition, when we believe that the information in our response may be of value to the public, we have electronically published these responses to other concerns on each of the four southern California national forests' websites. Responses such as those that only note why it is out of scope are not published but are included in the planning record.

The Forest Service should reconsider having public comment be analyzed out of state. (PC 39)

Your letters in their entirety were shared with the local Forests. The responses to public comment on the draft Plans were written by the southern California Forest Plan Revision interdisciplinary team members and reviewed by local and higher level agency staff. Likewise, the local planning team and Forest

employees prepared the final EIS and forest plans and supporting documents. The content analysis team, who are Forest Service employees, and a contractor were used in the initial processing and analysis of the content of the responses. See Chapter 5 of the FEIS for a description of the Comment Analysis Process.

The Forest Service should add the scoping recommendations to protect imperiled plants and habitats and reduce invasive species made by the California Native Plant Society to the final revised plan because they were not included in the Design Criteria or elsewhere in the proposal. (PC 42)

In Part 1, see Goal 2.1 Invasive Species and Goal 6.2 Biological Resource Condition and the associated desired conditions and outcome evaluation questions that the national forests will use for monitoring progress towards the desired conditions.

In Part 2 of the revised forest plans, refer to the Performance History and Program Objectives section to find the resource management program emphases for the next three to five years. See Appendix B of Part 2 for tactics and strategies (IS 1-Invasive Species, WL-1 TEPCS Species Management, WL-2 Management of Species of Concern, Link-1 Landscape Linkages, SD-3 Research Natural Areas, Rec 4 Conservation education, LG-1 Livestock Grazing and LG-2 Rangeland Health) that could be used to improve conditions for imperiled plants. The standard that mentioned the deliberate introduction of nonnative species was reworded and moved to strategy WL-1.

Land use zoning and special designation overlays are a primary means to protect habitat. Critical Biological and Back Country Non-Motorized zoning was utilized to protect habitats. Research natural areas were also recommended for several habitats with federally listed plants. Establishment of special interest areas (SIAs) such as the Foster Bear Ponds, Liebre-Sawmill, and the Arrastre Creek SIA will also assist in rare plant management. Some plants will also be protected within eligible (or recommended) wild and scenic river corridors. Please also see the plant viability accounts that are in the Reading Room available on the Forest Plan Revision CD and the four southern California national forests' websites.

Plan direction to restrict motorized and mechanized uses to National Forest System roads and designated trails in all land use zones is also expected to reduce conditions conducive to invasive plant species.

In Part 3, the Design Criteria that will be used for rare plant management is a combination of existing Forest Service manual and handbook direction, laws, other guidance and a revised set of standards. Standards S11, S12, S13, S32, S44 and S47 include direction that applies to rare plant and habitat management for new and ongoing projects. Standard S11 directs the national forest to consider species guidance documents, which are listed in Appendix H, to develop project specific or activity specific design criteria. Standards S13, S24, S29, S31, S36, S37, S38, S43, S45, S46, S48, S50, S51, S52, S53, S54, S55, S56, and S57 are designed to protect imperiled species and habitats from other management activities. There are additional forest standards that apply to plant management that may be found in the Forest-Specific Design Criteria section in Part 2 of the Cleveland and San Bernardino National Forest Plans. For the San Bernardino National Forest, see SBNF standards S1, S2, S3, S6, and S11; for the Cleveland National Forest, see CNF standards S10, 11, and S13.

Part 3 of the revised forest plans has further direction regarding invasive species management in Appendix M (National Forests of Southern California Weed Management Strategy) and in standards S6, and S37 and S39.

The Forest Service should incorporate new information relevant to the management and conservation of the flora and habitats within the four forests even though received after the deadline into the DEIS. (PC 119)

We welcome a partnership with the California Native Plant Society to help us incorporate new species information into our management. Adapting the revised forest plan to findings from monitoring or new science is a part of the adaptive management framework and implementing the forest plan. Changes to

species mapping overlays improve our corporate database but are not considered changes to management strategy and will not require a plan amendment to incorporate this information.

Public Values

The Forest Service should select an alternative that prioritizes or balances public values. (PC 9997)

A number of people wrote in and voiced an opinion in clear support of or opposition to one or more of the alternatives presented in the draft EIS for one or more of the national forests. People shared a variety of general reasons for their support of a given alternative. A few examples include to keep the national forest open to the public or to provide people with a natural area to escape urban or suburban life. Some people urged that the national forests be protected or properly managed, although opinion and values regarding what is proper varied.

We appreciate the time and effort taken by many people to share their values and preferences with us. Although comments are not reviewed as if they were votes, and regulations do not require response to non-substantive comments (see Chapter 5. Public Comment on the Draft Revised Forest Plan and DEIS), we nonetheless felt that a general response would be appropriate given the volume and heartfelt nature of these type of comments.

Through the crafting of the final revised forest plan, we have attempted to be responsive to the broad spectrum of concerns and to provide a balance of human needs and uses with natural resource protection in the final revised forest plans. The final revised forest plan lays out the management direction that will carry out the alternative selected (Alternative 4a) in the FEIS.

Some respondents ask us to prioritize or minimize given types of use, for example recreation or commodities use. The national forests are managed for multiple use, as discussed in the response to PC 28 (Multiple Use Emphasis). Accordingly, the final forest plan balances a broad variety of values.

Some commentors asked for a general outcome. The requests to provide for recreation and natural resources protection, clean water, habitat and species management, wilderness management, scenic values, vegetation management, community protection and ecological sustainability are all consistent with the overall forest and Place-based desired conditions detailed respectively in Parts 1 and 2 of the forest plan. As explained in Part 2 of the forest plan, the land use zones are a primary tool used to define uses that are appropriate for a given area such that there will be progress towards its desired condition.

The final forest plan represents what the Regional Forester believes to be the best balance of land use zones that will address the issues and concerns specific to the management of the four southern California national forests that were identified by the public and the Forest Service. The final forest plan incorporates features of several of the alternatives analyzed in the FEIS, emphasizing and balancing community protection; managed, sustainable recreation uses; the maintenance of healthy forests; and the management of threatened and endangered species. Under the final forest plan, managed sustainable use of the national forests is compatible with the maintenance of long-term biological diversity and ecological integrity. The plan meets legal mandates such as the National Forest Management Act, National Environmental Policy Act and Endangered Species Act.

On all four national forests in southern California, the final forest plan has fewer acres zoned as Back Country (BC) and more acres zoned as Back Country Non-Motorized (BCNM) as compared to the draft forest plans. The change in acreage figures is less indicative of real change in management intent. Rather, it is indicative of a clarification of management intent. Some loss of BC and gain in BCNM acreage reflect on-the-ground factors that would make motorized development unlikely and/or infeasible. In addition, widespread acreage mapped as BC under the draft forest plans' preferred alternatives has been re-mapped as Back Country Motorized Use Restricted (BCMUR) to, in most cases, reflect existing management and the intent to continue the restricted motorized use. Please see Part 2 of the final forest plan for how we revised the land use zones in the final forest plan to address misunderstanding of the zones in the draft plans and to clarify management intent.

Back Country zoning is maintained in areas to manage for motorized public access on designated roads and trails. While BC zoning allows the flexibility to consider projects involving motorized use, the final plan clarifies that only a low level of development is foreseen for the BC zone. Furthermore, no site-specific decisions are made in the forest plan such as adding trail or road mileage to the National Forest System.

Critical Biological (CB) zoning has been adjusted based on consideration of public comment and species analysis, resulting in slightly more acres on the Angeles, Los Padres, and San Bernardino National Forests. On the Cleveland National Forest acreage zoned as CB decreased, not to reduce the level of species protection but to adjust boundaries to include and protect occupied habitat but exclude other areas in order to avoid unnecessary conflicts with surrounding area uses.

Recommended wilderness has been adjusted based on public comment. Each national forest recommends some additional acreage.

The Forest Service believes that the zoning mix and other management direction under the final forest plan is compatible with the goals of the forest plan. Specific decisions related to zoning and reasoning is detailed in the Records of Decision.

The Forest Service should prioritize species diversity and ecosystem integrity as a specific, overarching resource management objective. (PC 29)

The land management strategies in Part 2 of the revised forest plans are crafted to contribute to movement toward the goals in Part 1. Please see the desired condition statements for species diversity, recovery of listed species, and ecological integrity under Goals 1.2, Restoration of Forest Health, and 6.2, Biological Resource Condition, in Part 1 of the revised forest plans. Also, relevant to your concern are Goals 2.1, Invasive Species; 5.1, Watershed Function; and 5.2, Riparian Condition.

The Forest Service should consider that avoiding habitat destruction is less costly than mitigation once the damage to the forest has been done and clarify where mitigation costs are considered in the alternatives. (PC 1120)

Under the revised forest plan, we expect to avoid causing negative effects to habitat whenever possible, and use mitigation where complete avoidance is not practical. Habitat conditions will be managed in a way to move them towards the desired conditions (Part 1). Should monitoring and evaluation not show this trend, changes will be made in the revised forest plan to adapt to this feedback. In addition to resource protection standards (Part 3), the revised forest plan includes strategies and program or Place-based emphases (Part 2) to move towards recovery of threatened and endangered species on National Forest System lands (Part 1). The Back Country Motorized Use Restricted and other land use zones without public motorized access will provide added protection to the more remote habitats. We have revised Parts 2 and 3 of the revised forest plans. Please see the conservation strategies such as WL1 in Part 2, Appendix B. In Part 3, see the revised standards package, especially standards S11, S12, and S47, and also Appendix H.

The Forest Service should explore the effects of increased development of recreational opportunities on biodiversity because increased recreation access increases fire risk, which negatively affects biodiversity. (PC 1797)

The potential effects associated with increased fire occurrence due to increased recreational access are discussed in Chapter 3 of the FEIS, Effects on Biological Diversity. The potential effects of increased use is addressed with the use of the Adaptive Mitigation for Recreation Uses protocol, which is located in Part 3 of the revised forest plan. This protocol is a sequence of management actions to mitigate the effects of recreation on biological diversity and ecological integrity. In addition, one recreation strategy is to use recreation capacity control measures in specific high use areas as use levels become a concern (see Part 2, Appendix B).

The Forest Service should strive to establish effective relationships with federally recognized tribes as well as other knowledgeable tribal entities and persons with ties to the area. (PC 19)

The referenced statement refers to Tribal Strategy #2 found in all four southern California national forests' Part 2 forest plans. The Strategy deals with Government to Government Relations which has a legal definition of applying only to federally recognized tribal government. However, the first listed tactic shows that the national forests are considering expanding the relationships to include developing protocols with organized groups of local Native American groups. Tribal Strategy #1 allows for the establishment of effective relationships with other knowledgeable entities and persons with ties to the area for issues associated with Traditional and Contemporary Uses.

The Forest Service should include standards in the land management plan with a commitment to developing at least one management plan and cooperative memorandum of understanding with tribes for the protection and preservation of plant gathering acres, on each of the four National Forests, within three years of the plan decision. (PC 20)

Standards are basically criteria that are mandatory requirements that come into play as site-specific activities are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions. The standards act as thresholds or constraints for management activities or practices to ensure the protection of resources.

Setting targets are not thresholds or guidelines but are more appropriate as goals for the Program Strategies and Tactics listed in Appendix B of Part 2 of the forest plan.

Consideration was given to creating targets for Tribal 1 and Tribal 2 but emphasis for the next three to five years will be on further development of relationships with tribal governments as well as working together to resolve issues, and to facilitate the continued traditional and cultural tribal use of the national forest.

It is expected that these relationships will be formalized, through either in a protocol or MOU, and will deal with issues of mutual concern, including the management of plants of concern. It would be more strategic to allow these formalized relationships to define the appropriate level of tangible and quantitative goals to address the issues of mutual concern.

In Part 1 of the forest plan Forest Goals and Desired Conditions, number and acres of resources protected, conserved or restored, and the number of agreements and protocols executed are all measures to evaluate the success of the national forests in meeting the desired condition for Tribal and Native American Interests.

The Forest Service should consider that cultural resource tribal entities, must be brought in to make additions and appropriate revisions prior to the completion of the Final EIS and Final Plan (PC 3684)

The Forest Heritage Resources and Tribal Relations Program Manager from the Angeles National Forest represented Heritage Resources and Tribal Issues on the Plan Revision Team. The Forest Heritage Resource and Tribal Relations Program Managers from all four southern California national forests were part of a Heritage and Tribal Planning Committee which provided input to the Heritage and Tribal Representative on the Team. The former two Heritage Resource and Tribal Relations Program Managers for the Cleveland provided input to the revised forest plan and DEIS. The Team representative consulted constantly with each Forest Heritage and Tribal Program Manager, as well as other staff archaeologists, on issues specific to their national forest. Each national forest undertook tribal consultation separate from the public meetings. Documentation of the tribal consultation can be found in the Planning Record. We feel that tribal entities were involved in review and revisions as part of the tribal consultation process.

Adequacy of Entire Planning Timeframe

The Forest Service should clarify the actual time frame for the forest plan revision. (PC 3531)

Forest plans are mandated by the National Forest Management Act to be revised at least every 15 years. However, Part 1 of the revised forest plan describes a long-term vision while Part 2 includes program emphases and estimated levels of programs which have a shorter-term focus of approximately three to five years. Vegetation management and community protection are major issues in this forest plan revision and FEIS. In Chapter 3 of the FEIS, Vegetation Condition and Forest Health, the forest health (e.g., dead trees in montane conifer) conditions are described. The revised forest plan details how the selected alternative will address these conditions. For analytical purposes, a 50-year time frame was used.

Adequacy of Comment Period

The Forest Service should have extended the public comment period to allow more time for study of the documents and comment. (PC 134)

The public involvement for the forest plan revision is summarized in Chapter 1 of the FEIS and also discussed in the responses to PC 56 in Agency Communication and Outreach and PC 105 in Public Meetings. On May 14, 2004, the Notice of Availability of the Draft Revised Forest Plans and accompanying DEIS was issued in the Federal Register. This initiated a 90-day formal comment period, which began on May 14 and concluded on August 11, 2004. The draft documents were mailed by May 4 to required agencies as well as those individuals and organizations who had ordered the documents previously, which means they had the documents in hand before the public comment period began. The online version of the documents was available prior to the start of the public comment period as well. In addition to the documents, specialist reports that support the draft plan and EIS analysis were also available on the forest plan revision CD and website, including wild and scenic river inventories, wilderness evaluations, and species accounts.

The national forests issued press releases regarding availability of the draft documents for public review and comment, and associated public involvement opportunities. The Forest Service hosted open houses that were designed to facilitate understanding of the documents so that individuals and organizations could more effectively develop their comments. It is the Regional Forester's opinion that the 90-day public comment period provided adequate time for review by individuals, groups, government agencies, tribes, and other interested parties.

The Forest Service should provide a working FAX line for public comment. (PC 69)

The FAX machine was checked every morning during the comment period to ensure that it was working.

Fees and Funding

Funding, General

The Forest Service should consider the lack of adequate funding and staffing and design and choose alternatives that can realistically be implemented. (PC 193)

The alternatives (as proposed) assume current budget levels as most reasonably foreseeable and are certainly very restrictive for implementation purposes. They also propose accomplishments within reasonably foreseeable total budgets for each national forest. For that reason we have proposed very little capital improvement and prefer to say that while capital improvements are needed and there is a maintenance backlog for roads and trails, those issues will be addressed only as funds permit. But the needs have been identified and the impacts have been analyzed for maintaining the infrastructure that we have. We cannot, for example, limit the traffic on our roads and trails. The only real limitation is parking. The budget is inherently limiting for dealing with such issues and also has to include the monitoring needed to ensure that species and species habitat are being maintained. We do not control budget

allocations and must work with what we are given. There is emphasis on cooperative efforts for volunteer labor and joint funding which are being particularly fruitful for trail maintenance and for fuels maintenance projects, respectfully. It will be an ongoing challenge to balance budget needs while emphasizing monitoring. The viability assessment that identifies Management Indicator Species recognizes the need for efficiency and attempts to link species to habitat indicators that are most readily monitored. Efficiency and priority criteria are applied in all program areas to make budget dollars go as far as possible. The alternatives and land use zone patterns are a matter of emphasis. While land use zones are a statement of desired condition, it is not a priority condition, for example, that additional roads and trails will be built in the Back Country zone. While Alternative 4a does emphasize recreation, the first emphasis is on adaptive maintenance of existing facilities. Further, facilities will be “hardened” to prevent impacts on threatened and endangered species. This is more feasible with existing budgets while adding more species conservation emphasis to Alternative 4. Construction of new facilities and roads and trails will be undertaken with specially appropriated capital investment funds as they become available and project-level planning is completed. The budget implications of the alternatives were considered in the efficiency analysis in the socioeconomic section of the FEIS. While the alternatives are budget-neutral in terms of having similar total cost, the resource program costs vary within each alternative depending on program emphasis. There are very definite tradeoffs, for example, between the higher non-mechanical trail maintenance and fuels management costs in wilderness versus the value of recreation visitor days. The resulting advantage of Alternative 4 from a net present value point of view is a result of those considerations. The reduction of net present value in Alternative 4a reflects the emphasis on adaptive reuse of existing facilities and species conservation. Economic efficiency is but one of the many factors considered in choosing the preferred alternative.

The Forest Service should show all budget figures in constant dollars. (PC 201)

The social and economic analysis section in Chapter 3 of the FEIS has been rewritten to more clearly explain that funding does not or barely exceeds 1993 levels in either actual or inflation-adjusted dollars. It is done to make the point more forcibly. The reference to larger pre-1993 budgets has been deleted. That statement comes from the national forest business plans which apparently looked at the pre-1993 budgets but chose not to display them. For lack of access to that data, the reference cannot be supported and was removed.

The Forest Service should include deferred maintenance costs in its annual budgets. (PC 204)

“Deferred maintenance” as used in this context is a physical backlog of maintenance, not an accounting category. The Forest Service does have a working capital fund for replacement of vehicles and ADP equipment which have scheduled replacement cycles but this does not apply to roads and other facilities. Congress chooses to annually appropriate funds earmarked for road and facility maintenance which have not kept pace with actual need.

The Forest Service should clarify what improvements the public will see in national forests with increased budget, including if there will be more educational outreach to the public. (PC 209)

We do not see increased budgets in the foreseeable future. However, issues such as educational outreach and habitat monitoring are to be emphasized regardless of alternative. In the selected alternative, community outreach and environmental education are to be emphasized as noted in the revised forest plan, Part 2, Program Emphasis and Objectives, Public Use and Enjoyment, as well as in the REC 4 strategy in Appendix B.

The Forest Service should dedicate funding to reducing fire hazards not providing more motorized access for the public. (PC 213)

Fuels reduction to reduce fire hazards is a high priority both nationally and on the national forests of southern California. Implementing the National Fire Plan was incorporated into all alternatives. An

increase in Congressionally earmarked funding for fuels reduction reinforces that priority. Conversely, building roads is not a priority.

The Forest Service should consider the negative effects on the quality of forest habitats that focusing funds on recreation investments and mitigation of recreation-related impacts will have on other programs. (PC 214)

The first priority of Alternative 4 and the selected Alternative 4a is to “harden” existing recreations sites and to undertake expansion only as funds permit, i.e. existing recreation sites will be evaluated for ways to reduce or eliminate impacts to wildlife and expansion will be limited. The legal requirement to protect wildlife is always primary and the hardening of recreation sites will actually improve habitat, not sacrifice it.

The Forest Service should limit backcountry use to registered hikers until there is a stronger budget for backcountry forest ranger patrols and trail maintenance. (PC 218)

Vehicle use is restricted to roads and a limited number of trails on all four southern California national forests. On the Monterey District of the Los Padres National Forest, motorized use is very limited due to the large amount of the District that is designated as wilderness or zoned as Back Country Non-Motorized Use Restricted and as Back Country Non-Motorized. Please refer to PC 1705 (Motorized Recreation) for information regarding vehicle caused fires. Staffing, patrol, and trail maintenance issues are day-to-day operational issues and are addressed at a local Ranger District or Forest level and are outside the scope of the FEIS.

The Forest Service should clarify how the agency will manage increased visitation. (PC 595)

It is a fact that the population of southern California is growing and more people will be seeking to utilize their national forests in the future. All of the alternatives have the same financial constraint of operating within the budgets each year. These budgets may influence the rate at which project specific elements are implemented but not the direction or strategies that the national forests would use to meet the desired conditions. The emphasis under Alternative 4a is to focus attention on recreation setting to support the activities within the constraints of budget and other resource management concerns and to remain a multiple use management agency. Because recreation activities are a primary use of the national forests, we are prioritizing and focusing on recreation for reaching a sustainable balance on each national forest. The demand for recreation opportunities is anticipated to grow faster than can be accommodated under any alternative, leading to broader use of adaptive mitigation measures including intensive developed site management and determining limits of use that sustain the recreation setting and provide opportunities for desired recreation experiences.

The Forest Service should consider in their decision of whether to recommend wilderness designation of areas (including those areas presently having roads) that what “revision” is tenable depends on whether the money is there to maintain more wilderness areas. (PC 3522)

For the purpose of this analysis the assumption is that funding would be similar under each alternative. The distinction between alternatives is based upon what emphasis there would be for that available funding. Chapter 3 analyzes the consequences of implementing each alternative given each alternative’s emphasis or lack of emphasis on wilderness. Based on public comment and wilderness evaluations, many unroaded and undeveloped areas on the Cleveland National Forest and Angeles National Forest that were displayed as recommended wilderness in Alternatives 3 and 6 have been zoned Back Country Non-Motorized in the selected alternative (Alternative 4a). This zoning has been adopted to maintain the natural, undeveloped character of these areas but allow flexibility for management activities that may not be compatible with wilderness values. This zoning supports a full range of fire and resource management options.

Funding to Implement Proposed Action(s)

The Forest Service should ensure adequate funding to cover the additional maintenance, enforcement, volunteer, and monitoring activities described in the plan; and restoration of the non-conforming system roads and unclassified roads. (PC 191)

The alternatives (as proposed) assume current budget levels which are certainly very restrictive for implementation purposes. For that reason, we have proposed very little capital improvement and prefer, instead, to say that while capital improvements are needed and there is a maintenance backlog for roads and trails, those issues will be addressed only as funds permit. But the needs have been identified and the impacts have been analyzed for maintaining the infrastructure that we have. We cannot limit the traffic on our roads and trails. The only real limitation is parking. The budget is inherently limiting and also has to include the monitoring needed to ensure that species and species habitat are being maintained. We do not control budget allocations and must work with what we are given. There is emphasis on cooperative efforts for volunteer labor and joint funding which are being particularly fruitful for trail maintenance and for fuels maintenance projects, respectfully. It will be an ongoing challenge to balance budget needs while emphasizing monitoring. The viability assessment which identifies Management Indicator Species recognizes the need for efficiency and attempts to link species to habitat indicators that are most readily monitorable. Efficiency and priority criteria are applied in all program areas to make budget dollars go as far as possible.

The Forest Service should consider that more intensive management is not a credible means to reduce negative impacts and cannot substitute for a plan that promotes sustainable low impact recreation and protection of the natural character of the forest. Details should be provided on how higher levels of management will be accomplished given the budget and staffing situation. (PC 195)

The final revised forest plan emphasizes protection of the natural character of the national forest while accommodating sustainable recreation. In Part 1 of the forest plan, the vision articulates that services (e.g., recreation) are provided for a growing diverse population while ensuring long-term ecosystem health, biological diversity and species recovery. In Goal 3.1--Provide for Public Use and Natural Resource Protection--it is stated that increasing demand for recreation use is accommodated within the capacity of the land to support it. Natural resource protection is emphasized as is monitoring.

Some felt that more intensive management is not credible to address expanded motorized recreation opportunities given current and anticipated law enforcement staffing. Law enforcement budget and staffing levels do not dictate the decisions made in forest plans, nor do decisions made in forest plans drive law enforcement allocations. Law enforcement resources are allocated separately from a forest planning process, according to existing statutes, regulations and Forest Service policy. In addition to law enforcement officers, there are other means to implement forest plans. One important means is making sure people are aware of the rules through signing, mapping and public education. Many volunteer groups or user groups monitor their own behavior and that of others who do similar activities. Partnerships also provide a means to communicate the proper way to visit the national forest and share information. In addition, proper engineering design can be helpful in guiding appropriate use of infrastructure. For further discussion about the anticipated impacts from recreation including OHV, refer to Chapter 3 of the FEIS under the section of the resource being affected.

The forest plan does not emphasize any one type of recreation but seeks to make available a broad array of balanced, environmentally sustainable quality recreation opportunities. Sustainable use and conservation education are also emphasized. (See recreation strategies in Appendix B of Part 2 of each forest plan.)

Alternative 4a (which was adopted in the Plan) reduces zoning acreage that allows motorized use but still maintains opportunities for both motorized and non-motorized recreation. See 9998 (Land Use zoning and Overlays, place-based program emphasis) regarding land use zoning adjustments in the selected alternative.

See the response to PC 193 (Funding, General) regarding concerns over the adequacy of funding and staffing for intensive management. In contrast to Alternative 4, the selected Alternative 4a does not anticipate fully accommodating the projected recreation but instead estimates meeting up to approximately 5 percent of the increase (see the Visitor Use, Participation and Satisfaction section in Chapter 3, Environmental Consequences, Recreation). Capital investment in developed recreation infrastructure (which will focus on expanding existing facilities) may lag behind demand but the opportunities that are offered will be high quality and environmentally sustainable.

The Forest Service should include a detailed assessment of the required financial resources (both capital and operational) and should not select any alternative if successful implementation depends on an increase in funding from Congress. (PC 222)

The alternatives considered propose accomplishments that are based on reasonably foreseeable total budgets for each national forest. The resource program budgets vary by alternative depending on emphasis but the total budget level is relatively constant for each alternative. In other words, the alternatives are budget neutral. A business plan was developed for each national forest which has a detailed financial analysis and shows that current budget levels are insufficient to minimum management standards for most program areas. The business plans for each national forest demonstrate that a 25 percent budget increase is indicated to meet minimum standards. See the Economic Efficiency section in Chapter 3 of the FEIS, Environmental Consequences, Effects on Economic Conditions. It would be unreasonable to assume a large budget increase to implement all foreseen maintenance and investment needs when it is unlikely that sufficient funding will be available in the immediate future to meet minimum management standards for roads and trails maintenance and other needs. For this reason, the current budget level is used for analysis of economic efficiency and impacts.

While land use zone allocations might allow more development of roads, trails, and facilities, and while such development might be consistent with the theme of the alternative, budget limitations will always apply at the operational and project level. For example, funds for capital investment and maintenance will always be limiting. Expansion of the national forest infrastructure will take place only as funds permit. Legal obligations for such things as wildlife monitoring will always take precedence. The national forests will continue to balance program needs to accomplish as much maintenance as possible while meeting legal obligations for monitoring and planning. The national forests are in need of increased funding, but that is beyond the control of each national forest so continued current levels of funding are assumed for the analysis. Where an expansion of an activity is desirable, the environmental effects are analyzed at the program level in the FEIS, but such expansion would only occur if funding permits.

The level of forest plan implementation will vary with available funding. With more funding, we will expect to see more progress toward desired conditions in Part 1 and more implementation of the strategies in Part 2. In every case that we choose to undertake an action or activity, we will comply with the rules in Part 3.

The Forest Service should add funding for management of special concerns species. (PC 225)

The Forest Service does not have authority to add funding beyond what is congressionally appropriated. However, the Forest Service can give budget emphasis to species management and monitoring. The action alternatives all emphasize species management and monitoring to varying degrees above current levels.

The Forest Service should clarify in the Final Environmental Impact Statement how both recreational opportunities and conservation efforts would increase under Alternative 4 when compared to Alternative 2. (PC 552)

Each of the alternatives speak to varied themes explained in the Executive Summary and in more detail in Chapter 2 of the FEIS. The Alternative 4 theme emphasizes sustainable recreation as the method of addressing issues and concerns and leaves management the option of accommodating expanded demand for all types of recreation opportunities either within existing facilities or as budget permits, outside those facilities after further NEPA analysis. Conservation efforts would be focused on the sustainability of the setting, where under some other alternatives the effort would focus on broader objectives. Based upon public comments, the recommended wilderness areas have been reviewed to include some additional recommendations within the theme of the selected alternative. Zoning clarifications and explanation of suitable uses identify appropriate uses throughout the places of each national forest. The rationale for the selected alternative is explained in the Record of Decision.

The Forest Service should clarify how Alternative 4 provides more protection from recreational impacts for watersheds than Alternative 2. (PC 1792)

Although each of the alternatives must operate within the same budget constraints, each alternative theme indicates how discretionary funding would be utilized. The Alternative 4 theme indicates an emphasis on maintaining the sustainability of recreation and its facilities as a primary function where Alternative 2 places a focus on a broader range of emphasis. Alternative 4a places an emphasis on the sustainability of the recreation setting with even more likelihood that watersheds will receive protection from recreational impacts. These distinctions are clarified in Chapter 2 and Chapter 3 of the FEIS.

Alternative 1 - No Action

The Forest Service should not adopt Alternative 1 because it uses extensive prescribed burning and fails to protect and restore imperiled species and does not cope with increasing numbers of visitors. (PC 701)

Considering the alternative of taking no action—in this case current management—is required by the National Environmental Policy Act. Alternative 1 was not selected.

Alternative 3

The Los Padres National Forest should explain why Alternative 3 calls for more urban/rural interface just north of Ojai. (PC 2201)

As a result of public input and the need to clarify the zones, the selected Alternative 4a combines the Urban/Rural Interface zone with Developed Area Intermix and refers to the combination as Developed Area Interface. Note that Alternative 4a Developed Area Interface zoning looks much like the Urban/Rural Interface zoning recommended in Alternative 3 in recognition of the need for management of potential impacts from the immediate vicinity of the community of Ojai. This zone was not intended to vary by alternative and thus should not be associated with the rationale for the extent of new wilderness being recommended in each alternative. The lack of Urban/Rural Interface in that area in the other alternatives was a mapping error.

Alternative 4 - Preferred (Angeles, Los Padres, San Bernardino National Forests)

The Forest Service should consider modifications to Preferred Alternative 4. (PC 709)

We were asked to consider a number of modifications to the preferred alternatives as presented in the draft forest plans for the Angeles, Los Padres and San Bernardino National Forests. Our response is to consider these requests for the selected alternative and adoption in the final revised forest plans. The Forest Service has selected Alternative 4a, as reflected in the forest plans and described in Chapter 2 of

the FEIS (Alternative 4a (selected)). Imbedded in the land use zones is consideration of the following factors or objectives cited by respondents: soil disturbance, road maintenance, fire management, healthy forests, fuels management, community protection, water quality, access, grazing, and recreation. Land use zone definitions are contained in Part 2 of each forest plan as well as the suitable uses associated with each land use zone. The implications of the management actions associated with these resource issues are developed in the FEIS, Chapter 3. Finally, the land use zone patterns themselves were configured to achieve levels of protections regarding these issues. Much of this consideration is explained in the place descriptions contained in Part 2 of the forest plans.

The Little Sur River is not recommended for wild and scenic river (WSR) status in the selected Alternative 4a. In addition to the existing Big Sur WSR on the Monterey District of the Los Padres National Forest, the Arroyo Seco River is recommended for WSR status in Alternative 4a. See the Alternative 4a Land Use Zone map for the Los Padres National Forest. The Brazil Ranch is zoned as Back Country on the ocean side of Highway 1 and Back Country Motorized Use Restricted on the inland side of Highway 1. This reflects the management intent of preserving the Brazil Ranch and limiting public access to specific programs being conducted at the ranch. There was a concern that recreational use not be increased in the northern portion of the Los Padres National Forest. Please see the Place descriptions for the Arroyo Seco, Big Sur, and the Ventana on the Monterey District of the Los Padres National Forest. The Monterey is largely (86 percent) wilderness, which is inherently limiting for recreation. In addition, the Big Sur Place emphasis is on adaptive reuse of existing day-use and camping facilities, not expansion, to preserve the scenic, natural, and ecological qualities.

A list of the recreation residence tracts may be found in Part 2 of the forest plan under Special Designation Overlays. Concerns focused on funding and staffing constraints are responded to separately. See the response to PC 195 (Funding to Implement Proposed Action(s)) regarding the feasibility of intensive management and PC 222 (Funding to Implement Proposed Action(s)) regarding the feasibility of implementation.

The Forest Service should include a guideline in Alternative 4 that recreational opportunities will not be developed until subsequent environmental review has determined that all impacts will be mitigated by proper management controls. (PC 712)

Under all alternatives, approval of any recreation development project would entail site-specific environmental analysis that would address impacts and mitigation.

Alternative 6

The Forest Service should restore Alternative 6 to the original intent of the conservation alternative including: reopen maintenance level 1 and 2 roads, provide environmental protection, sustainable recreation, and resources management. (PC 715)

The six alternatives in the DEIS are the planning team's honest efforts to interpret and reflect public comment and present a range of alternatives. In the FEIS, a seventh alternative (Alternative 4a) that makes further adjustments in response to comment has been developed and analyzed. All alternatives are developed by the Forest Service to be in a common format and able to be implemented. The planning team met with groups to discuss issues and enhance mutual understanding, but we did not agree to allow any group to review the alternatives or analysis prior to publication.

The FEIS portrays scenarios (e.g., road system mileage) that the planning team believes are consistent with each alternative and analyzes effects accordingly. FEIS analysis scenarios do not involve site specific decisions. No decisions are made in the forest plan on changes to National Forest System roads. Alternative 6 includes direction to analyze roads to determine those to decommission and restore to natural appearing conditions. The Forest Service believes that the road system scenarios and analysis in Chapter 3 of the FEIS reasonably reflects the alternatives including Alternative 6.

In response to comment, some aspects of Alternative 6 were adjusted. Consequently, analysis of the effects of implementing Alternative 6 has been revised in Chapter 3. The main change in Alternative 6 between the draft and final EIS is that in the draft EIS maintenance level 1 and 2 roads were presumed to be obliterated and restored to natural appearing conditions over time. In the FEIS, these roads are instead presumed to be closed to public access but available for administrative use such as fire suppression and vegetation management. Thus, roads for fire suppression have been included in all alternatives. Analysis of the effects of implementing Alternative 6 has been adjusted to allow for aggressive fire suppression rather than rely on past burned areas to stop the spread of wildfires. Accordingly, analysts have revised original conclusions that bigcone Douglas-fir stands and the forest in general would burn too often under Alternative 6, resulting in some undesirable environmental effects. Alternative 6 provides the greatest hazardous fuels reduction efforts in the direct vicinity of communities. Unlike other alternatives, Alternative 6 provides for nearly all vegetation management in chaparral to be in the Wildland/Urban Interface. The exception to this would be those projects that benefit wildlife species such as prescribed burning of chaparral around stands of bigcone Douglas-fir to protect spotted owl habitat or burning chaparral in remote locations to benefit bighorn sheep. Alternative 6 has been revised to include the effects of wildland fire use in remote areas (termed non-WUI) of the Los Padres National Forest.

Alternative 6 capability and suitability criteria for livestock grazing has been revised in Chapter 3 of the FEIS under the Effects on Livestock grazing. In response to public comments, Alternative 6 provides for grazing in areas of slopes less than 20 percent. Livestock grazing is provided under Alternative 6; however, the location of grazing is limited to flatter more productive areas.

The conservation education component varies from alternative to alternative based upon the emphasis of that alternative. Alternatives 3 and 6 would focus on ecosystem and habitat issues, while Alternative 4 would focus on developed recreation issues and information. In Alternative 4a, the focus of the conservation education and information component is on the recreation setting to increase awareness, promote advocacy and develop stewardship. In Alternative 2, the conservation education is broad and covers all aspects of national forest management. Emphasis on conservation education in Alternative 6 was noted in the DEIS Chapter 2. Changes have been made to the FEIS Chapter 3 analysis to clarify that this is a component of Alternative 6 as well as Alternatives 2, 3, 4 and 4a.

Ultimately, the decision can and does consider aspects of multiple alternatives. Thus, aspects of Alternative 6 may be found in the selected alternative.

The oil and gas leasing decision amends the existing (1988) forest plan for the Los Padres National Forest. The oil and gas leasing decisions are consistent with all standards and management direction in the final revised forest plan.

The Forest Service should include Sitton Peak in Alternative 6. (PC 718)

Sitton Peak undeveloped area was included in Alternative 3 as recommended wilderness. In the selected alternative (Alternative 4a), this area is zoned as Back Country Non-Motorized.

The Forest Service should consider that Alternative 6 eliminates or weakens the ability to use tools such as grazing in new ways for ecological health. (PC 719)

Based on public comment, Alternative 6 has been adjusted to include grazing as a suitable activity.

The Forest Service should clarify its statement in Alternative 6 stating that many recreational destinations will be closed, and not relocated, because of species-at-risk. (PC 1809)

Alternative 6 states in Chapter 3 of the FEIS, Environmental Consequences, Developed Recreation, that “Modifications of existing facilities to better protect sensitive resources coupled with the decommissioning of some recreation facilities...” would be a strategy used to manage the sustainability of resource values. In addition to this strategy, some recreation sites are anticipated to be closed because access to them will be restricted, thus the estimate of a 10 percent decrease in opportunities. The Adaptive

Mitigation for Recreation Uses (forest plan, Part 3, Appendix D) would be applied to this alternative as in each of the other alternatives. The emphasis in Alternative 6 would not be on replacing recreation opportunities as it is in some other alternatives.

Alternative Range

Alternatives General and Comparative

The Forest Service website should include the “alternative plans” that have been developed and that specific forest managers have chosen different alternative plans as their “preferred plan” in their on-line materials. (PC 98)

A description and land use zone mapped for each alternative is located in Chapter 2 of the Final Environmental Impact Statement and map atlas. The draft land management plans were written to reflect the theme of the selected alternative once identified, as required by 36 CFR 219.12(g)(4)(i). Maps for Alternative 4a are found in Part 2 of each forest plan.

The Forest Service should revise the Environmental Impact Statement to explain the rationale behind its choice of the preferred alternatives that call for less wilderness and more off-road vehicle use. (PC 535)

Each of the alternatives speak to varied themes as explained in the Executive Summary and in more detail in Chapter 2 of the FEIS. The Alternative 4 theme emphasizes sustainable recreation facilities as the method of addressing issues and concerns and leaves management the option of accommodating expanded demand for all types of recreation opportunities either within existing facilities or as budget permits, outside those facilities after further NEPA analysis. The Alternative 2 theme is one of balanced program emphasis. Based upon public comments, the recommended wilderness areas have been reviewed to include some additional recommendations within the theme of the selected alternative (see Chapter 3 FEIS). None of the alternatives expand any OHV use without further project specific analysis. New zoning clarifications and explanation of suitable uses identify appropriate uses throughout the Places of each national forest. The rationale for the selected alternative is explained in the Record of Decision.

The Forest Service should clarify why Alternative 6 has a higher percentage of land area where change from the natural evolving landscape is allowed than Alternative 5. (PC 596)

Alternative 5 with the greatest level of development being possible would have the greatest change from the naturally evolving landscape. Alternative 6 would permit the lowest change from the naturally evolving landscape.

Each of the alternatives indicate varied Scenic Integrity Objectives to express the alternative’s theme; the main distinction is in the level of restoration that would occur under each alternative (see FEIS, Chapter 3, Effects on Landscape Management).

The Forest Service should explain how the viability outcome for Peninsular bighorn sheep was higher under Alternatives 3 and 6, and why the measures from those alternatives could not be adopted. (PC 616)

The viability outcome rating reflects the higher program emphasis on habitat restoration in Alternatives 3 and 6. The selected alternative allows for this work to be implemented and places an emphasis on this type of work as a priority following community protection.

The Forest Service should integrate Native American participation from Alternatives 3, 4 and 6 into the final plan. (PC 619)

As stated in Chapter 3 of the FEIS, government-to-government relations increase in Alternatives 2 through 6, with Alternative 6 having more focus on Native American participation in the national forest management process. All four southern California national forests have selected Alternative 4a, and the

degree of active Native American participation will increase over the current situation, and more resemble what is expected with Alternatives 3 and 4. In Part 2 of the forest plan, the objectives for Tribal 1 and Tribal 2 provide for an increase of Native American participation over the current situation.

The Forest Service should consider a chapter on mitigation in its Final Revised Plan. (PC 924)

At a programmatic level, Chapter 3 describes impacts and notes mitigation measures typically considered for use in project-level analyses. However, the decisions made in the forest plan are not authorizing ground-disturbing actions and therefore we do not include a list of project mitigation measures. The standards and the other management direction (e.g., Best Management Practices) in Part 3 of the forest plan comprise the design criteria that will be used when implementing any projects or activities. Decisions regarding specific project mitigation will be made in the site-specific analyses that will occur prior to implementation.

The Forest Service should choose a management plan that impacts the least amount of species of special concern. (PC 1140)

It would appear that tables 113 (Number of Animal Species of Concern in Each Threat Category) and 114 (Number of Plant Species of Concern in Each Threat Category) have been misunderstood. The tables identify how many species are in Threat Categories 1-6, defined in Chapter 3 of the FEIS, under affected environment for Biological Diversity. The tables do not show numbers of species “threatened” by each alternative. New captions for the tables have been revised to make this clear in the FEIS. See viability outcome tables for adjusted/selected alternative in the FEIS.

Alternative Development and Range

The Forest Service should analyze a reasonable range of alternatives. (PC 911)

Alternatives prepared for consideration in a forest plan revision must provide for a broad range of reasonable management scenarios for the various uses of the national forest (36 CFR 219.12(f)). In formulating alternatives, we aim to provide an adequate basis for identifying the alternative that comes closest to maximizing net public benefit in an environmentally sound manner. Thus, the evaluation of the range of alternatives does not turn upon consideration of a single factor or national forest activity, but must rather consider the alternatives as a whole.

As described in the FEIS, Chapter 2 (Development of Alternatives), a broad range of reasonable management alternatives was developed to address the five issue topics developed during public scoping. Alternatives vary in their means of balance or approach to addressing the issues in this plan revision. A round of public open houses was held in February through March 2003 to share six preliminary alternatives with the public and refine them based on public comment. These alternatives were then analyzed and considered fully in the DEIS. In response to public comment on the draft, the FEIS adds an alternative that adjusts the preferred alternatives to provide a new mix of elements from the alternatives.

The Forest Service attempted to reflect the intent of public input in the development of the alternatives. All alternatives considered in detail were tailored by the Forest Service in order to have a consistent format and to meet agency direction. Accordingly, any alternative may be feasibly implemented.

It is not necessary or possible to develop all possible combinations of uses. The Responsible Official has the option to mix and match components of different alternatives (for example, Alternatives 4 and 6, as suggested by one respondent) in the alternative selected for implementation. Two of the alternatives studied in detail (Alternatives 3 and 6) have themes of biodiversity emphasis. In the DEIS, the Forest Service designed Alternative 6 to address the access issue by reducing the transportation system to a core system of highly maintained roads, as well as closing unclassified roads and decommissioning them over time as budgets allow. Including and analyzing an alternative with a minimal road system broadened the spectrum of attributes in the alternatives from which the decision maker could choose from. However, in response to public comment on the DEIS, road management in Alternative 6 was revised from

decommissioning to closure of maintenance level 1 and 2 roads and retention of administrative access. Modification of Alternative 6 is also discussed in the response to PC 715 (Alternative 6).

Alternatives presented in the DEIS and FEIS are not mutually exclusive. While each alternative addresses each revision topic in a different manner, some alternatives address these topics in a very similar manner. All alternatives apply the same package of design criteria (see Plan, Part 3). All alternatives incorporate the roads analysis process (see Reading Room) that portrays management opportunities and priority for mitigation for National Forest System roads. The selected alternative incorporates aspects of different alternatives that best combine to maximize net public benefits, remain consistent with resource integration and management requirements, and comply with stated goals, desired conditions, and management objectives.

The Forest Service should develop a new alternative that adds conservation plans to ensure the recovery and viability of threatened plant species. (PC 912)

Please see a description of the selected alternative in Chapter 2 of the FEIS. The preferred alternative was modified to include provisions for the protection of species for which viability concerns were identified in the DEIS. Specifically, Critical Biological land use zones were included for the protection of important habitat areas for threatened and endangered species (see table 365 (Primary Species within Critical Biological Land Use Zones) in Appendix B of the FEIS), less area was zoned for motorized use and less area is expected to be affected by off-route travel by motor vehicles.

Alternatives Developed By Others

The Forest Service should prepare and analyze a reasonable alternative using portions of the adequate available segments of other alternatives including no prescribed burning in the northern Los Padres National Forest. (PC 919)

The process of selecting a final preferred alternative is exactly that: a modification of the draft preferred alternative with features from other alternatives in response to internal and public comment. Very few comments were received suggesting that prescribed burning should not be included, so it was not considered. The northern Los Padres National Forest (which is comprised of the Monterey Ranger District) does have distinct vegetative and geologic features. These distinct features are mapped and analyzed in the same context as the rest of the national forest. Moreover, the land use zoning process is equally applicable. To create a separate document for the Monterey Ranger District would entail much additional expense without adding to the quality of analysis. The revision of the forest plan is defined as encompassing the legal boundaries of the entire Los Padres National Forest, including the Monterey Ranger District.

The Forest Service should adopt the mining standards from the Conservation Alternative into the revised Land and Resource Management Plan to protect species from the harmful effects of mining. (PC 920)

We did not feel a need to adopt the mining language in the Conservation Alternative because we felt that the existing mining laws and the new LMP strategies and standards are sufficient for protection of species and habitats.

Forest Plan Decision

Land Use Zoning and Overlays, Place-based Program Emphasis

The Forest Service should review and clarify its land use zones (including off-road use and administrative access) and management intent regarding level of development. (PC 9998)

Public comment regarding land use zones was wide ranging and in many cases quite specific. Most comment was focused on the degree to which the zoning either encourages or discourages motorized

access, and the associated impacts. Some people requested that more areas should be opened for motorized access, others requested the opposite.

It is apparent from the comments that many people interpreted the motorized vs. non-motorized land use zones as a sharp line indicating the extent to which motorized use of the national forests would be either expanded or contracted. In fact, some degree of motorized use is allowed in all land use zones. There was a high level of concern regarding the ability of the Forest Service to have administrative access for community protection and general forest management purposes. Many people thought that this type of access would be limited by the land use zoning in some alternatives. There is a need to identify how administrative access is influenced by land use zone decisions.

After review of this issue with the Policy Team and Joint Leadership Teams, the four southern California national forests decided that there was a need to be very clear about the definitions of land use zones and that the selected alternative needed to provide a clearer expression of management intent.

Land use zones are tools used in the forest plans to provide “management prescriptions” as required by the 1982 planning regulations (36 CFR 219). The land use zones provide a geographic expression of the desired condition and to indicate where specific uses are not suitable. The leadership teams from the four southern California national forests decided to establish a modified set of land use zones to allow them to more clearly display management intent as a selected alternative was developed based on public comment.

The Land Use Zone section of Part 2 of each forest plan has been revised to better describe the land use zones including management intent and how the zones were modified between the draft and final to respond to public comment and agency review including:

1. The section more strongly emphasizes that motorized use is only allowed on designated roads, trails, and areas in all zones.
2. The intent was clarified for the "Back Country Motorized" zone to retain a natural character and limit development. To reinforce this intended low level of development, the name of this land use zone is re-named "Back Country" in the revised forest plans.
3. Two zones that had the exact same suitable uses identified (Urban Rural Interface and Developed Areas Intermix) were combined into one new zone called Developed Area Interface.
4. A new zone was defined that indicated those areas of Back Country or Back Country Non-Motorized that would allow for administrative and authorized user access only for national forest management purposes such as fire suppression, or access to private land. This zone is named Back Country Motorized Use Restricted.
5. The Suitable Uses tables in the Land Use Zone section were updated to reflect the changes in zoning.

The adjustments to the zoning descriptions are also included in the FEIS Chapter 2 (Alternatives Considered in Detail). The FEIS provides a comparison of the adjusted alternative to each of the others.

The Forest Service should classify areas where Southern California Edison’s existing power lines or hydroelectric facilities, including their access roads, are located as Back Country areas. (PC 725)

All existing Southern California Edison powerlines, the service roads associated with them and hydroelectric facilities have been zoned Back Country, Back Country Motorized Use Restricted or Developed Area Interface in Alternative 4a (selected). All three of these land use zones allow for the continued presence, use and maintenance of these types of infrastructure. No existing permits are affected by this decision.

The Forest Service should designate the Milpitas Special Interest Area, including Sta'yokale (Santa Lucia Peak), and zone it as Back Country Non-Motorized. (PC 726)

The informational description for the Milpitas Special Interest Area (SIA) has been added to Appendix A of Part 2 of the Los Padres National Forest Plan. The Milpitas SIA provides recognition of the heritage resource values located around what is known as the “Indians” area.

Most of the proposed Milpitas SIA lies within existing wilderness. The portion that is not wilderness is zoned for Back Country Non-Motorized (BCNM) except for the corridor for the Arroyo Seco-Indians Road. The designation of a SIA allows the national forest the maximum flexibility in the recognition and management of the significant heritage resource values as well as managing the other resources and infrastructure present. Sta'yokale (now known as Junipero Serra Peak) was within the proposed Milpitas SIA as originally submitted, but a mapping irregularity on the recreation base map resulted in the appearance that it was left out. In the selected Alternative 4a, additional acreage has been mapped to the north of the Peak to remove all confusion as to the management intent to have the Peak located within the Milpitas SIA.

Appendix B of Part 2 of the forest plan for the Los Padres National Forest presents the Program Strategies and Tactics for Special Designations. The stated goal is to have a Management Plan completed within five years after the approval of the revised land management plan. This Management Plan will identify protection measures for the heritage resource values, implementation schedule, and monitoring protocol.

The Forest Service should clarify the full definition and intention of the Back Country Motorized (now called Back Country in the Final Plan) land use zone, and reassess and adjust its application and analysis of this designation. The analysis should address the impacts of Back Country zoning from potential approval of suitable uses on non-motorized recreation activities, the availability of wilderness-quality experiences, and forest resources; and disclose any information on specific OHV connectivity issues regarding Back Country designation, especially if accommodation of the dispersion of OHV traffic occurred in any inventoried roadless areas that were rejected for wilderness recommendation. (PC 730)

In the draft forest plans for the Angeles, Los Padres, and San Bernardino National Forests, Back Country zones were identified with the intent to improve OHV opportunities and were consistent with the theme of the preferred alternative (Alternative 4). As discussed in FEIS, Motorized Trails section, many of the existing OHV systems could be improved with the addition of long distance travel opportunities. Land use zoning is a broad level of determination and without knowing where specific locations of connecting roads or trails could be developed, landscapes were recommended to be left at this level to accommodate improvements to the OHV systems.

Identification of individual corridors between one location and another was not done. This level of identification would be a site-specific determination and is not appropriate at the forest planning level.

One of the factors used to determine if Back Country zoning was appropriate was the existing condition of a national forest's designated route system and if their existing forest plans gave any indication of planning corridors that had been identified. An example of this is the San Bernardino National Forest in which corridors for system improvement were identified on the OHV plan map. Review of this map, which is a readily available public document, clearly displays that the national forest's intent was to develop long-distance riding opportunities for the OHV community. This is articulated within the revised forest plan as well as the intent to develop this type of recreation opportunity to further the development of the California Backcountry Discovery trail.

A similar methodology was followed for the Angeles and the Los Padres National Forests as their plans and OHV plan maps also articulate the need for improving OHV systems, addressing connectivity between developed OHV networks, and by providing long-distance riding opportunities.

For the Cleveland National Forest's preferred alternative (Alternative 2), much more of the land base was in a non-motorized zoning than under Alternative 4, so the rationale used on the other three national forests was not applicable to the Cleveland National Forest's OHV situation. The Cleveland National Forest has a much smaller designated OHV system and has other constraints, such as a large amount of private inholdings, that make the development of long distance travel opportunities much more difficult.

In response to public comments, the alternative selected in the final revised plans (Alternative 4a) more clearly defines management intent for the land use zones. More national forest acreage is now zoned for non-motorized uses or has restricted access (see FEIS, Effects on Motorized Trails section). Further development of OHV systems is now anticipated to occur in incremental steps with an emphasis on long-distance riding opportunities. New development or route designations will require site-specific NEPA analysis. Refer to Public Concerns 4507 and 4547 (Motorized Recreation) for additional information regarding any proposed actions and the effects they may have on changes to land use zoning. Finally, the effects of implementation of each alternative and its associated zoning and uses are disclosed in Chapter 3 of the FEIS under the section of the resource being affected.

The Forest Service should not exempt identified federal actions from designation of critical habitat. (PC 733)

The Forest Service is not exempt from the prohibitions on adverse modification of critical habitat as defined in Section 7 of the Endangered Species Act of 1973, as amended. The Forest Service has consulted with U.S. Fish and Wildlife Service and National Marine Fisheries Service (NOAA Fisheries) and has received biological opinions from each agency.

The Forest Service should provide protections for areas containing proposed as well as designated critical habitat with either Critical Biological land use zoning, wilderness designation, or a Special Interest Area overlay. (PC 736)

Proposed and designated critical habitat occurs in all types of land use zones. When these critical habitat designations were made or proposed, they were made with full knowledge of the range of the authorized activities that take place in the designated and proposed areas. There are many authorized uses that have no substantial impact on the primary constituent elements that are a part of each unit of critical habitat. Many of these authorized uses would be unsuitable if all designated and proposed critical habitat was allocated as a Critical Biological zone, a special interest area, a wilderness area, or a recommended wilderness area and the preclusion of such use is contrary to the Multiple-Use Sustained Yield Act as well as the Endangered Species Act of 1973, as amended.

Instead, we have used a combination of land use zone designations and forest plan goals, objectives, and standards as a strategy for providing for the protection of proposed and designated critical habitat. This strategy and its effects are described in the biological assessment for the revised forest plans (see national forests' websites). The U.S. Fish and Wildlife Service and National Marine Fisheries Service (NOAA Fisheries) have each issued biological opinions for implementation of the selected alternative.

The Forest Service should clarify why no Critical Biological zones are identified for the Los Padres National Forest. (PC 746)

The preferred alternatives (Alternative 2 on the Cleveland National Forest and Alternative 4 on the Angeles, Los Padres, and San Bernardino National Forests) have been adjusted and they are now referred to as the select alternative --Alternative 4a. Alternative 4a includes the Critical Biological land use zones that were included in Alternative 4, as well as most of those that were formerly only included in Alternatives 3 and 6. In addition, Critical Biological land use zones were added to two sections of stream on the Los Padres National Forest. These two stream segments are found on Indian Creek and Mono Creek (see map of Alternative 4a). See table 365: (Primary Species within Critical Biological Land Use Zones) in Appendix B of the FEIS for a listing of Critical Biological land use zones that are included in the selected alternative.

The Forest Service should not designate the area north of Condor Peak as Back Country. (PC 748)

The area north of Condor Peak has been zoned Back Country Non-Motorized in the selected alternative. This zoning stops at National Forest System Road 3N32, a designated OHV route, and changes to Back Country at that location.

The Forest Service should retain the Trabuco Inventoried Roadless Area (IRA) as Back Country Non-Motorized. (PC 749)

In the area around the Trabuco IRA, the zoning displayed in Alternative 2 has been maintained. Back Country Motorized Use Restricted has been added east of Starr Ranch Sanctuary in Sections 29 and 7 because there are existing roads in these two areas that are currently used for administrative access.

The Forest Service should include at least one management zone other than Recommended Wilderness where road building, commercial logging, and facilities developments are prohibited. Such zoning should protect land yet allow for more diverse use and flexible management than wilderness designation. (PC 755)

See the updated suitable use tables in Part 2 of the revised forest plan. We agree with you that the Urban Rural Interface and Developed Area Intermix zones lacked diversity. Because they had no differences in suitable uses, they were combined into one zone called Developed Area Interface.

Commercial timber use is not a suitable use in any land use zone on the four southern California national forests. However, fuelwood harvesting for other reasons (e.g., forest health or community protection) may occur as noted in the suitable uses table in Part 2.

Road construction and reconstruction is not suitable in recommended or existing wilderness, and Critical Biological zoning. In addition, the Back Country Non-Motorized (BCNM) zone is an area that is undeveloped with management intent to remain so. Roads are not prohibited but administrative access is allowed by exception for emergency situations and for short duration management purposes. Our intent is to use temporary routes while management is occurring and then close or remove the route. Access to authorized facilities or private land in BCNM is not anticipated but may occur by exception when there are existing rights to such access. Facility construction (except trails) is generally not allowed in BCNM but may occur in remote locations where roaded access is not needed for maintenance.

The land use zones as described in Part 2 of the forest plans meet the intent of planning regulation requirements. Together, the land use zones work to identify suitable uses appropriate to the area to move toward its desired condition.

The Forest Service should clarify the full definition and intention of the Back Country Non-Motorized land use zone, and reassess and adjust its application and analysis of this designation, including if it was wrongfully limited due to confusion over motorized administrative access. (PC 763)

Please see general response 9998 in this section regarding clarification of the land use zones in the revised forest plans. In response to comment, Alternative 4a adjusts zoning, increasing Back Country Non-Motorized and applying a new land use zone called Back Country Motorized Use Restricted.

The Forest Service should consider making fire management and prevention the fundamental premise in assigning land use zones. (PC 775)

The urgent need for community protection and fuels management are emphasized in all alternatives including the selected alternative. Management intent for forest health and prevention of wildfires to provide greater community protection has been clarified in the revised forest plan.

The suite of land use zones has been refined to include a zone called Back Country Motorized Use Restricted that is used in the selected alternative. This zone is designed to accommodate administrative access to areas of the national forests where motorized public access is restricted in deference to other

resource management concerns. National Forest managers anticipate locating community protection vegetation treatments that require permanent roaded access (such as fuelbreaks) within this zone.

Forest and District fire, fuels and vegetation management staff were actively involved in the mapping of zones used in the selected alternative. Community protection and fuel treatment programs are emphasized in the selected alternative. Accordingly, the proposal for the Sugarloaf Wilderness (located near the community of Big Bear) was not carried forward in the selected alternative.

The Forest Service should ensure that Public Works can continue to access their rain gauges in the Angeles National Forest. (PC 778)

Zoning does not prohibit access to existing authorized uses.

The Forest Service land use zoning should support the goal to reduce the risk from catastrophic fire and not restrict fire fighting capabilities. The Agency should review and modify suitable uses and management options for the Back Country Non-Motorized, incorporate motorized access to fuelbreaks by firefighters, and incorporate roads and grazing. (PC 783)

The Forest Service has reviewed and clarified management intent for the Back Country Non-Motorized land use zone, which includes allowing temporary roads for administrative use (see Part 2, Land Use Zones). Some degree of motorized use is allowed in all land use zones, although it may be restricted to defined circumstances.

The Forest Service should designate the Aliso-Arrastre area as a Special Interest Area and Back Country Non-Motorized for resource protection, should not allow motorized vehicles in Aliso Canyon to reduce conflicts between motorized vehicles and horseback riders, and should correct maps that show trails crossing over private property in Aliso Canyon. (PC 787)

The Aliso-Arrastre Special Interest Area (AASIA) has been revised in Alternative 4a (selected) to establish the AASIA as shown in Alternative 3. The area of the AASIA addition shown in Alternative 6 has been mainly rezoned to Back Country Non-Motorized (BCNM). Because of public comment, we recognize the need to address conflicts between private property and resource values (heritage) and motorized recreation routes in the area. There are currently designated OHV routes even though they may be gated or closed, or cross private property. These conflicts will be addressed in future site-specific analysis. Roads that are multi-use, open to the public, or could facilitate long distance motorized recreational experiences have been put in corridors zoned as Back Country.

The Forest Service should consider protecting portions of the Angeles National Forest with a Special Interest Area overlay for a variety of specific areas to enhance habitat linkage and protection as identified in several comments. (PC 788)

Habitat linkages were considered in development of the selected alternative. Accordingly, additional acres of Back Country Non-Motorized, Critical Biological, and Back Country Motorized Use Restricted have been incorporated into Alternative 4a. This type of zoning is more compatible with the objective of maintaining a habitat linkage than a special interest area, which is a recreation program designation providing for public interpretation as an emphasis.

The Forest Service should exclude the San Gabriel Canyon Off-Highway Vehicle Area from designation as critical habitat for the Santa Ana sucker and continue OHV use. (PC 800)

The San Gabriel Canyon OHV Area was not designated as a Critical Biological zone because the designation would conflict with the current uses occurring in the area. Examples include OHV, reservoir management, i.e., water releases, sediment removal and hydroelectric. The Angeles National Forest believes that it can effectively manage OHV use that occurs in the area and adequately protect Santa Ana sucker habitat under the land use zoning Developed Area Interface in the selected alternative because it will be operating the area under the recently issued terms and conditions stated in the U.S. Fish and Wildlife Service's biological opinion for Santa Ana sucker protection. The terms and conditions direct

several mitigations to be implemented in order to allow for continued OHV use over the long-term. Off-highway vehicle use and ongoing protection measures for threatened and endangered species within the open area will be continued under the selected alternative. Refer to the Ranger District's Management Plan for additional information regarding management direction for the area.

External agreements between private parties and other governmental agencies and their relationship to the management of San Gabriel Canyon are outside the scope of the FEIS.

The Forest Service should designate streams that support or could potentially support steelhead as Critical Biological zones and find them eligible for Wild and Scenic River designation. In addition, the FEIS should identify that steelhead occur in the Middle and Upper Santa Ynez and Upper Sespe Creek. (PC 803)

Potential and suitable habitats for southern and south-central evolutionarily significant units (ESU) steelhead trout occur in all types of land use zones. There are many authorized uses that have no substantial impact on the habitat of this species, especially unoccupied habitat. Many of these authorized uses would be deemed unsuitable if all potential and suitable habitat was allocated as a Critical Biological zone. Instead, we have used a combination of land use zone designations and forest plan goals, objectives, and standards as a strategy for providing for the protection of habitat. This strategy and its effects are described in the biological assessment for the Los Padres and Cleveland National Forests revised forest plans. The National Marine Fisheries Service (NOAA Fisheries) has issued a biological opinion indicating that implementation of the revised forest plans will not jeopardize the continued existence of steelhead in the planning area.

Please see the map and Place description in Part 2 of the final forest plan for the Los Padres National Forest for the information about the Sespe Place. The Critical Biological zone in the upper river is for arroyo toad and steelhead trout. Chapter 3 of the FEIS (Biological Diversity) identifies the measures necessary to protect biological resources and species viability. Federally-listed steelhead trout (anadromous life forms of *Oncorhynchus mykiss*) are described as "only naturally spawned populations of steelhead (and their progeny) residing below long-term, naturally and man-made impassable barriers (i.e., dams)" (50 CFR Parts 222 and 227). The Los Padres and Cleveland National Forests manage steelhead trout habitat based on the definition found in this codified regulation; therefore, the suggestion to designate the middle and upper Santa Ynez River upstream of Bradbury Dam on the Los Padres National Forest as a Critical Biological zone for steelhead would be contrary to this management approach. Please see the species accounts for steelhead trout and rainbow trout in the Reading Room for more information about the federally-listed steelhead trout species and non-federally-listed rainbow trout that reside in the inland waters above barriers.

The Forest Service should implement a protective land use zone designation for the area from west of Mount Wilson to east of Monrovia Peak for protection of the California spotted owl. (PC 813)

National Forest System Road (NFSR) 2N24 (which borders the area on the north) is designated as Back Country because it is an existing designated OHV route. However, the majority of the area between Mt. Wilson and Monrovia Peak has been designated as Back Country Non-Motorized in the final revised forest plan. The only areas that are not included are: the Chantry Flats area, which is designated as Developed Area Intermix due to the recreation residence tract, picnic area and fire station that occur there; the Clamshell Road (NFSR 2N31), which is designated as Back Country Motorized Use Restricted; and the Van Tassel Road network (NFSRs 1N36, 1N29 and 2N30) and the powerline that follows it, which is also designated as Back Country Motorized Use Restricted.

The Forest Service should designate areas within critical habitat designated (or proposed) for the federally threatened vernal pool fairy shrimp and arroyo toad, to Back Country Non-Motorized, if not designated as a Critical Biological zone or Wilderness (excluding official road corridors). (PC 819)

Vernal pool habitat occurs at a scale that is much smaller than the scale of forest land management planning zoning. Forest plan standards found in Part 3 of the forest plan (including species accounts for the vernal pool species) provide guidance for management at the project scale.

The Forest Service should include a statement in the revised forest plan that the land use zoning designations are approximate and are not intended to include any existing utility infrastructure, including access roads, or utility corridors. (PC 835)

A statement has been added to Part 2, Land Use Zones section that “The suitable uses identified in tables 2.1.1 – 2.1.4 are intended as guidance for consideration of future activities and do not affect existing authorized occupancy and uses or the administrative procedures used to manage them.” (Table numbers vary by national forest and include tables 2.1.1-2.1.4, tables 2.2.1-2.2.4, tables 2.3.1-2.3.4, and tables 2.4.1-2.4.4.)

The Forest Service should protect the area around Lucas Ranch including designation of the area to the south and the west of the Ranch as Back Country Non-Motorized. (PC 843)

Based on public comment, the Back Country Non-Motorized zoning displayed in Alternative 2 of the draft plan has been refined or expanded in many areas of the Cleveland National Forest, including the areas south and west of the Lucas Ranch. These zoning adjustments are reflected in Alternative 4a, the selected alternative. The Program Emphasis for the Laguna Place has also been refined to clearly articulate the national forest’s commitment to protecting sensitive cultural and biological resources (see Part 2, Laguna Place).

In the area around the Lucas Ranch, the zoning displayed in Alternative 2 has been adjusted to replace the Developed Area Intermix and Back Country Motorized zoning immediately around the Lucas parcel with Back Country Motorized Use Restricted zoning. Public roads in the general area will be zoned Back Country instead of Developed Area Intermix because this area is not intensely developed. On the north side of the Lucas parcel, the zoning is changed from Developed Area Intermix to Back Country Motorized Use Restricted (see the Land Use Zone section in Part 2 for more about this zone). There is a need for administrative access for vegetation treatment in this area due to tree mortality.

The Forest Service should clarify what can be done in semi-primitive motorized areas. (PC 900)

Based upon public comments, the land use zoning in the final revised forest plans is better defined in Part 2, Land Use Zones. Note that these revised land use zone descriptions note characteristic recreation opportunity spectrum (ROS) class(es) associated with each zone. The FEIS, Chapter 3, Effects on Recreation displays this same correlation between ROS classification and the land use zones. To find out which uses may be allowed in each land use zone, refer to the revised suitable uses tables in Part 2 of the revised forest plan.

This plan revision process completes the roadless review process and makes recommendations for additions to the National Wilderness Preservation System. This is explained in Chapter 2 of the FEIS, where it states that if an area is not recommended for wilderness designation, it would be allocated to one of the other land use zones. It is further explained in Appendix D. Inventoried Roadless Areas (IRAs) of the FEIS.

The Forest Service should provide multiple use trails and access roads not for public use, but for official use. (PC 1778)

A new land use zone (Back Country Motorized Use Restricted (BCMUR)) has been created to address your comment. This new land use zone falls within the influence of Forest Service roads or facilities that

are designated for administrative use only, or roads or facilities that are under special-use permit. These roads or facilities are not for public use. There are no trails that are designated for official use; however, there are public use trails within the BCMUR land use zone.

The Forest Service should reevaluate its zoning structure because cumulative impacts from these designations on the social and economic conditions of local communities have not been clearly identified nor addressed in this document, because the forests can be adequately managed and protected through existing ROS categories, and because the zones lack clear definition and legal support. (PC 1888)

Cumulative impacts to communities have been addressed in FEIS Chapter 3, Effects on Economic Environment. Output levels for the national forests do not change significantly from the current management. Impacts on the communities will not change under any alternative.

The Recreation Opportunity Spectrum (ROS) was designed to address visitors' outdoor recreation expectations and experiences through five classes of recreation settings. These classes range from primitive to more substantially developed outdoor-recreation environments. This classification system is not designed to serve as a land-use determinant for all national forest activities, but rather its role is to serve as a means for determining the appropriate scale of outdoor-recreation facility development, based upon an agreed-to outdoor-recreation setting.

The land use zones provide suitability direction for a broader set of national forest activities. The final ROS categories will be compatible with the land use zones. The relationship between the ROS map and land use zones has been strengthened in the descriptions of the land use zones, including descriptions of which ROS classifications are characteristic in each zone.

See responses in the Mechanized Recreation section regarding concerns about management intent for trails management and land use zoning.

Recommendations for wilderness designation have been made based on wilderness evaluations (see the response to PC 2179 under Wilderness for details) and public comment from individuals, organized groups and other agencies.

The Forest Service should not include the various areas identified in specific comments in a Critical Biological land use zone. (PC 9775)

Critical Biological land use zoning in the Laguna Lakes area (Laguna Place) was not adopted in the selected alternative (4a) because the current management strategy to protect Laguna Mountain skipper habitat has been codified by Place specific standards included in this forest plan (see Standards CNF S9, S15, and S16, Place Specific Standards, in Part 2, Cleveland National Forest). The national forest's intent is to manage habitat in the Laguna Lakes area on a site-specific basis through application of forest plan strategies and standards (see Parts 2 and 3). In accordance with the terms and conditions of the existing U.S. Fish and Wildlife Service biological opinion, habitat protection measures such as avoidance, exclosures, and interpretation in the Laguna Lakes area have already been implemented.

Management intent in the Laguna Mountain Recreation Area is to designate trails for mountain biking (see Standard CNF S16, Place Specific Standards, Part 2). The decision to designate a particular trail such as the Laguna Lakes Trail for mountain biking will be determined through site-specific analysis. In the meantime, mountain biking within the Laguna Mountain Recreation Area is allowed on all system trails except those closed to mountain biking by forest order, such as the Pacific Crest National Scenic Trail and the Sunset Trail.

The selected alternative does not include the Van Dusen Road on the east end of Big Bear Lake within a Critical Biological zone on the San Bernardino National Forest.

The Gold Mountain Critical Biological land use zone on the San Bernardino National Forest was included in the selected alternative (4a). Use of National Forest System Road 3N69 was retained for existing public access, and for fire crews to monitor lightning strikes over the valley and to suppress fire as necessary.

The Deep Creek Critical Biological land use zone on the San Bernardino National Forest has been included in the selected alternative (4a) to ensure adequate protection for the arroyo toad. Under the law, the Forest Service must take additional measures to protect the toad and aid its recovery. Continued day use at Deep Creek Hot Springs, and foot access to Deep Creek Hot Springs, Warm Springs, and the Pacific Crest Trail are retained as suitable uses, as is the Devil's Hole OHV crossing. A 200 foot buffer along the 2W01 OHV trail crossing was mapped that allows for continued recreational use of the trail and trail maintenance at this crossing within the creek.

The San Gabriel Canyon OHV Area was not designated as a Critical Biological zone in the selected alternative because the designation would conflict with the current uses occurring in the area. It was designated as a Developed Area Interface land use zone due to the many uses that occur in the area. Examples include OHV, reservoir management, i.e., water releases, sediment removal and hydroelectric. The Angeles National Forest believes that it can effectively manage OHV use that occurs in the area and adequately protect Santa Ana sucker habitat under this land use zoning because it will be operating the area under the recently issued terms and conditions stated in the U.S. Fish and Wildlife Service's biological opinion for Santa Ana sucker protection. The terms and conditions direct several mitigations to be implemented in order to allow for continued OHV use over the long-term.

The Forest Service should not include the various areas identified in specific comments in a Back Country Non-Motorized land use zone. (PC 9776)

Concern was raised that Back Country Non-Motorized zoning would remove access to remote areas and eliminate needed emergency access and preclude treatment of vegetation. To respond to these concerns, land use zones have been refined to include the Back Country Motorized Use Restricted (BCMUR) zone. While the BCMUR designation limits public motorized use, it facilitates fire suppression and fuels treatment by allowing administrative access. Each individual zoning designation was carefully reviewed by national forest managers to ensure that appropriate access to fight fire and treat hazardous fuels is available. The Sugarloaf area was dropped as a wilderness proposal to ensure adequate community protection.

The non-motorized designation does prevent construction of permanent roads. In general, the Back Country Non-Motorized zone is used in areas where there are few, if any, roads. In most locations that have been zoned as non-motorized, the terrain is rugged and does not lend itself to road construction. The zone is used in areas of the national forest where the management intent is to retain the non-motorized or undeveloped character of the national forest. Very few National Forest System roads are located within this zone in the selected alternative and our intent is to keep it that way.

The closure and restoration of specific routes in the past is outside the scope of this document. The area north of Big Bear Valley has the highest number of unauthorized road miles of all the southern California national forests. Some routes have been decommissioned in this area to protect listed species habitat; however, numerous routes have been retained to provide access to the area. The area is not closed to recreation use. The FEIS meets all process requirements under NEPA and no additional analysis is required. However, prior to designating or decommissioning unclassified roads, project-level planning would be completed.

The Back Country Non-Motorized zone was used in some alternatives to address the need to maintain wildlife linkages by retaining the undeveloped character of the landscape. We disagree that wildlife linkages were not discussed during the scoping process. In fact, it is integral to one of the five issue categories being addressed in the forest plan revision (see Chapter 1, Issue 4 - Urban Development and

Forest Habitat Linkages). National Forest staff have been very open about the concept of linkages in our planning efforts. This work was completed after the public scoping meetings, which were held in 2002.

On the Angeles National Forest, the area to the south of Wrightwood is zoned as Back Country Non-Motorized. However, this land use zone does not preclude fire suppression efforts or forest health or fuels treatments. The area north of Wrightwood is zoned as Developed Area Interface close to the community and in the Back Country zone further north. Existing infrastructure and improvements account for the Developed Area Interface areas showing around the private property (Wrightwood). On the west is the Mountain High Ski Area, the Big Pines complex with its associated infrastructure, and State Highway 2. On the east is the Lone Pine Canyon Road, a highly used, paved county road, and on the north are some mining claims and the Sheep Creek Water District waterlines along with associated service roads. The Back Country designation further to the north was made to allow for the consideration of a cross forest (Angeles/San Bernardino National Forests) designated OHV route. Such proposed actions would be subject to site-specific NEPA analysis including public involvement.

The Forest Service should not include various areas identified in specific comments in a Back Country land use zone. (PC 9778)

As a result of public perceptions, concerns, and the need to clarify management intent, an additional zone, Back Country Motorized Use Restricted (BCMUR), was created. The BCMUR zone allows access for administrative purposes. In general, Alternative 4a used corridors of Back Country zoning rather than large blocks to help clarify the intent to keep motorized use along existing travel routes. These corridors vary in width. Areas where expansion of motorized use is envisioned were also zoned as Back Country.

The majority of the area in the Santa Clarita area (Soledad Front Country Place, Front Country and Santa Clara Canyon Places) have been zoned as Back Country Non-Motorized in the selected alternative. Furthermore, most of the roads that occur in these places have been zoned as Back Country Motorized Use Restricted. Exceptions are major roads open to public use, powerlines, designated OHV routes and other infrastructure components.

Based on public comment, the Cleveland National Forest refined and expanded Back Country Non-Motorized zoning in many areas, including in the Silverado and Elsinore Places. In addition, the Back Country zone ("Back Country Motorized" in draft plan) has been refined to distinguish between areas where public motorized access is suitable (Back Country) and areas where motorized access is allowed for administrative purposes only (Back Country Motorized Use Restricted). Management intent is to reduce the potential for disturbance and degradation.

Land managed by the San Bernardino National Forest north of the Morongo Reservation in Wood Canyon (T2S, R2E W1/2 of section 7) is zoned as Back Country Motorized Use Restricted to allow Tribal access to the water line. In this zone, motorized use is restricted to administrative purposes only. This includes Forest Service, other agency, or tribal government needs, as well as access to private land or authorized special-uses. The Deer Spring area (T2S, R2E, W portion of Section 4, East portion of section 5) is zoned as Back Country Motorized Use Restricted. On the north eastern side of the Morongo Reservation, Bear Wallow Trailhead, Kitching Trailhead and the northernmost tip of the 2S03 road (T2S, R2E, SW ¼ Section 22) are zoned as Back Country. This zoning was retained to provide long-term management flexibility.

Please see the response to PC 9776 in this section regarding land use zoning around Wrightwood.

Elsmere Canyon and the immediate area around it have been zoned either Back Country Non-Motorized or Back Country Motorized Use Restricted. Under the latter land use zone, motorized use is restricted to either administrative or authorized purposes, which includes those uses authorized by special-use permit.

In Alternative 4a (selected), the zoning of the North Coast Ridge Road was changed to Back Country Motorized Use Restricted, which allows access only for administrative purposes and for access to private inholdings.

The Forest Service should protect various areas identified in specific comments in an Established Wilderness land use zone. (PC 9783)

These comments basically present an option to increase the area zoned for recommended wilderness, including areas not previously proposed for consideration as wilderness. The 1982 planning regulation requires the evaluation of the inventory of roadless areas for wilderness characteristics. We also evaluated additional areas that were publicly proposed during scoping. The evaluation process is described in FEIS, Appendix D. Inventoried Roadless Areas (IRAs). These evaluations were completed and are available for viewing in the Reading Room on the national forests' websites. The recommendations for wilderness included in the revised forest plan are based on the evaluations. Therefore, we have met the requirement in the planning regulation and are not considering further proposals. Those areas that are not recommended for wilderness are included in one of the other land use zones. In general, options for undeveloped areas (including wilderness) are expected to remain intact. In all cases, project proposals that are located within the revised inventory of roadless areas will be analyzed for effects on roadless character during NEPA analysis including the full disclosure of those effects. Public involvement is part of the process.

The Forest Service should include various areas identified in specific comments in a Developed Area Intermix land use zone. (PC 9784)

The zone you describe has been combined together with Urban Rural Interface and is now characterized as the Developed Area Interface zone. It includes areas adjacent to communities or concentrated developed areas. The level of human use and infrastructure is higher here than in other zones. The zone is managed for motorized public access. Most direct community protection Wildland/Urban Interface Defense zones are anticipated to be located within this zone. This zone combined with Back Country and Back Country Motorized use Restricted is anticipated to provide access needed for fuels treatment and fire suppression response for community protection. Please see the Land Use Zones section in Part 2 of the forest plans.

The land use zoning in the selected Alternative 4a for the Big Bear area includes adequate access for fire suppression and fuels treatment.

The Forest Service should include various areas identified in specific comments in a Critical Biological land use zone. (PC 9785)

Please see the responses to PC 803, 826 and 9775 as well as others in this section, regarding designation of Critical Biological land use zones.

The definition of a Critical Biological zone in the forest plan states that it includes the MOST (emphasis added) critical areas on the four southern California national forests to manage for the protection of many imperiled species. The broad scale use of Critical Biological zoning suggested in some of the comments exceeds the intent and purpose of Critical Biological zone with the inclusion of land that is not the most important area necessary for the management of imperiled species by the Forest Service.

The Critical Biological zones were generally designated in areas where there are active conflicts between listed species and existing facilities or activities such as campgrounds, road fords (low water crossings), and grazing allotments. Beyond the Critical Biological zones, potential and suitable habitats for threatened, endangered, or proposed species occur in all types of land use zones. There are many authorized uses that have no substantial impact on the habitat of these species, especially unoccupied habitat. Many of these authorized uses would be deemed unsuitable if all potential and suitable habitat was allocated as a Critical Biological zone. Instead, we have used a combination of land use zone

designations and forest plan goals, objectives, and standards as a strategy for providing for the protection of habitat.

Many other management options are available for the long-term conservation of some of the species and habitats mentioned. Please see WL 1 in Appendix B, Part 2 of the forest plans, and design criteria related to federally-listed and sensitive plant species. An increase in the acreage of Back Country Non-Motorized land use zone and use of the Back Country Motorized Use Restricted zone is expected to provide habitat protection for most species over the long-term.

Please see land use zone maps for a description of the selected alternative (4a). Many, but not all, of the locations shown as Critical Biological or recommended wilderness in Alternatives 3 and 6 were incorporated into the selected alternative. See table 365: Primary Species within Critical Biological Land Use Zones in Appendix B of the FEIS for a description of which Critical Biological land use zones were included in the selected alternative. See Appendix D in the FEIS for a description of which recommended wilderness areas were included in the selected alternative. In a similar fashion, many, but not all, of the locations shown as research natural areas or special interest areas in Alternatives 3 and 6 were incorporated into the selected alternative. See Appendices F and G in the FEIS for a description of which research natural areas and special interest areas were included in the selected alternative.

Direction for protection of federally-listed species' critical habitat is described in Part 1 of the forest plan, Vision statement, Desired Conditions under Resource Management; the Strategic Program Emphasis and Objectives for Resource Management in Part 2, Program Strategies and Tactics for Resource Management Part 2, and the Place Based Program Emphases in Part 2 (emphasis on resolving recreation conflicts with sensitive habitats). Standards S18 and S20 as described in Part 3 and Adaptive Mitigation for Recreation Uses (Appendix D, Part 3) are primary tools for dealing with these conflicts. Please see forest plans, Part 3 as well, Standards, and Part 2 for each national forest, for Place specific standards that were developed for protection of species and habitat.

The strategy of using land use zone designations and forest plan goals, objectives, and standards and its effects are described in the biological assessments submitted to U.S. Fish and Wildlife Service and National Marine Fisheries Service (NOAA Fisheries). Please see Chapter 3 of the FEIS, Effects on Biological Diversity also, which discusses the effects of Forest Service activities on biological resources and species viability.

In the final revised forest plan for the Angeles National Forest, Part 2, see the San Gabriel Place description, regarding the six-mile segment of the West Fork San Gabriel River that will be managed as a Critical Biological land use zone for the Santa Ana sucker. This stretch of river was designated in the selected alternative (4a) because it is amenable and practical to manage as a Critical Biological zone compared to the other two forks of the San Gabriel. First, there is a locked gate on the West Fork road that parallels the river. The gate restricts the amount of use that takes place in the river corridor, unlike the use that occurs in the east and north forks. Motorized access is by permit only which confines the intensive picnicking and swimming activities to approximately the first mile from the confluence with the north fork. The river segment designated as a Critical Biological zone is upstream of the intensively used area and is primarily used by anglers. This type of light, low-intensity use results in very few if any environmental impacts to the river.

In terms of flood control operations and general water release impacts to the Santa Ana sucker, the species is well adapted to high flows and irregular flow regimes. Therefore, water management would not be a concern in terms of impacts to the sucker. Conversely, there is a tremendous amount of intensive use of the east and north forks of the San Gabriel River. Access is also virtually unrestricted to these forks of the river. In addition, there are also two private campgrounds, a Los Angeles County Detention facility, a trailer park and a rehabilitation center located on private land along the east fork. The Forest Service is in the process of installing several "sweet smelling toilets" along both forks of the river to improve the sanitation and public health situation in these areas. We also intend to build more facilities to

accommodate the public use of the area in the future as well. Construction of new facilities would make it difficult to assure that these actions would be neutral to the species as required by the definition of a Critical Biological zone. Existing uses and their current and projected intensity level would not be compatible with Critical Biological zoning, thus making it infeasible for the Forest Service to manage the area primarily for the purpose of protecting this species. The designation of all forks of the San Gabriel River as critical habitat for the Santa Ana sucker by the U.S. Fish & Wildlife Service in January 2005 provides us the direction to improve our management of the east and north forks. The selected alternative (4a) also includes additional Critical Biological zoning along Fish Creek near Castaic, the West Fork of the San Gabriel, and the Upper Big Tujunga Creek area.

Please see the final revised forest plan for the Angeles National Forest, Part 2, regarding the establishment of a Critical Biological land use zone for management of the unarmored three-spine stickleback in Soledad Canyon. The area suggested to be designated as a Critical Biological zone appears to be on private land and outside Forest Service jurisdiction. We have designated the one-mile segment of stream that does fall within National Forest System lands as Critical Biological.

Critical Biological land use zoning displayed in Alternative 6 to protect Laguna Mountain skipper key and occupied habitat has not been adopted in the selected alternative (4a) because the current management strategy for this species has been codified by Cleveland National Forest specific standard CNF S9 included in Part 2 of the forest plan. The status, habitat, and presence of Laguna Mountain skipper are dynamic. The national forest has already instituted protection measures such as avoidance, exclosures, renovation, and on-site interpretation that appropriately protect habitat in accordance with the terms and conditions of the existing U.S. Fish and Wildlife issued biological opinion. The national forest's intention is to manage habitat for the Laguna Mountain skipper on a site-specific basis in accordance with new Standards and Strategies that have been integrated into the revised Cleveland National Forest plan (see Parts 2 and 3).

In addition, the 1986 Cleveland National Forest plan identified the Laguna Meadow area as a Developed Recreation Complex; in the final revised forest plan the zoning for this area is Back Country Non-Motorized, which affords greater protection for the Laguna Mountain skipper than currently exists. Also, in the 1986 forest plan, the east Mendenhall Valley was assigned a motorized objective (Roaded Natural); in the final revised forest plan the Back Country Motorized Use Restricted zoning would limit motorized access to administrative purposes only and also afford greater protection for the Laguna Mountain skipper.

The zoning around critical habitat in the Laguna Mountains as displayed in Alternative 2 reflects a continuation of previous management direction. While the opportunity for motorized access in and around this area for recreation, community protection, fire suppression, vegetation management, ingress and egress to private land, and access to permitted uses has been maintained, the Back Country Non-Motorized zoning displayed in Alternative 2 of the draft forest plan has been expanded in the selected alternative (4a). In addition, Back Country Non-Motorized Use Restricted zoning, rather than Back Country Motorized zoning, has been applied to those areas where motorized access for administrative purposes is anticipated. These zoning changes add protection for critical habitat in the area.

Previous Cleveland National Forest plan direction for management of the area around Cedar Creek was Semi-primitive, Motorized. The zoning in Alternative 2 represents a greater emphasis on protection of habitat values through the assignment of Back Country Non-Motorized zoning. The Cedar Creek area is not recommended for wilderness designation in the selected alternative (4a). In addition, previous forest plan direction for management of the area south of Hauser Canyon was Semi-primitive, Non-Motorized. Based on public comment and roadless area evaluations, portions of this area are recommended for wilderness designation in the selected alternative. Wilderness designation for South Hauser Canyon would result in increased protection for habitat values.

In the area around Guatay Mountain on the Cleveland National Forest, the zoning displayed in Alternative 2 has been adjusted in the selected alternative (4a) to limit motorized travel on the unclassified road from Samagatuma to the Pine Valley fuelbreak near the bible camp for administrative and permitted purposes only. Likewise, the unclassified roads to Granite Springs and the meadow are intended for administrative purposes only, primarily community protection. And on the western side of Guatay, Back Country Motorized Use Restricted zoning is intended in order to maintain access for livestock grazing and permit operations. There is currently new development on the northern edge of this area where road closures and dumping occur. Developed Area Intermix is zoned around the foot of Guatay Mountain along old Highway 80. Generally, zoning in and around Guatay has been changed from Back Country Motorized to Back Country Motorized Use Restricted. The Critical Biological zoning displayed in Alternative 2 has been adjusted to encompass only the plant habitat in the selected alternative (4a).

Guatay is a designated special interest area. This area will be further evaluated for research natural area designation and if appropriate recommended for establishment in the future.

Biologists and botanists on the planning team reviewed Critical Biological zoning recommendations and found many of the suggested locations did not meet the intent of a Critical Biological zone; and others were protected under current management. On the Cleveland National Forest, vegetative Critical Biological land use zones were designated on Viejas Mountain for San Diego thornmint and other gabbro endemics, Guatay Mountain for Tecate cypress and within the King Creek Research Natural Area for Cuyamaca Cypress. In addition, the increased acreage of Back Country Non-Motorized and/or Back Country Motorized Use Restricted zoning in the selected alternative (4a) is expected to provide habitat protection for many species over the long-term.

Federally-listed steelhead trout (anadromous life forms of *Oncorhynchus mykiss*) are described as those “only naturally spawned populations of steelhead (and their progeny) residing below long-term, naturally and man-made impassable barriers (i.e. dams)” (50 CFR Parts 222 and 227). The Los Padres National Forest manages steelhead trout habitat based on the definition found in this CFR; therefore, the suggestion to designate upper Matilija Creek (upstream of Matilija Dam), and San Carpofo Creek and Salmon Creek (both upstream of a natural waterfall barriers) as Critical Biological land use zones for steelhead trout would be contrary to this management approach.

A majority of the Big Sur and Little Sur Rivers that flow on National Forest System lands are located within the Ventana Wilderness. The majority of the mainstream of the Sisquoc River that flows on National Forest System lands is located within the San Rafael Wilderness. Wilderness management provides a much stronger level of species and habitat protection than designating segments of these streams as Critical Biological land use zones. The Big Sur River, Sisquoc River and Sespe Creek also have the added protection that accompanies Wild and Scenic River designations, as well. Please see the final forest plan for the Los Padres National Forest, Part 2, Sespe Place, regarding the Critical Biological land use zone that has been designated for the management and recovery of steelhead trout and arroyo toad. Devil Canyon (a tributary to San Mateo Creek on the Cleveland National Forest) is within the San Mateo Canyon Wilderness. In addition, this stream is part of the 14.1 miles of eligible wild and scenic rivers in the San Mateo Place, and will receive protection through that special designation.

Please see the species accounts for steelhead trout and rainbow trout in the Reading Room for more information about the federally-listed steelhead trout species and the non-federally-listed rainbow trout that reside in the inland waters above barriers.

The San Bernardino National Forest used a variety of methods to conserve pebble plain habitat over the long-term in the selected alternative (4a). The Gold Mountain and Coxey Pebble Plain were designated as Critical Biological land use zones in the selected alternative. The Arrastre Flat and Wildhorse Meadow Research Natural Areas were also recommended for establishment. Arrastre Flat is a large pebble plain whereas Wildhorse Meadow has inclusions of pebble plain with federally-listed species present. Pebble plain habitat across its range will also benefit from the increase of Back Country Non-Motorized land use

zoning. The national forest intends to continue to plan and implement conservation strategies to preserve this habitat. In Part 2 of the forest plan for the San Bernardino National Forest, see WL 1 in Appendix B for Strategies that are specific to this habitat. See also the Place specific Standard in Part 3 of the forest plan for the San Bernardino National Forest that relates to ashy gray paintbrush. We also intend to implement strategies listed in the Pebble Plain Habitat Management Guide that was updated in 2002. The large number of habitat protection measures completed over the last seven years will also remain in place.

The Coxeey Pebble Plain Critical Biological land use zone was designated in the selected alternative. The short unclassified road leading to the helispot within the Critical Biological zone was zoned as Back Country Motorized Use Restricted. Use on this road is retained for helicopter support during fire suppression as needed.

The Union Flat Critical Biological zone was not designated in the selected alternative; however, the Arrastre Flat Research Natural Area (RNA) located in the immediate vicinity was designated with pebble plain plant species being the target vegetation. Please see the forest plans, Part 2, related to recreation use within research natural areas. See also Appendix F. Research Natural Areas in the FEIS for additional information on RNAs. The Forest Service Manual (FSM 4060) describes activities that are generally not allowed within RNAs. This information was also presented at the public scoping meetings.

The Forest Service has no recent documented nesting of California gnatcatcher. We have zoned the eastern San Gabriel Mountains on the San Bernardino National Forest predominately as Back Country Non-Motorized which should provide adequate protection for California gnatcatcher should they reoccupy this area. In addition, the national forest has designated both occupied locations of mountain yellow-legged frog as Critical Biological land use zones.

In the San Bernardino National Forest selected Alternative 4a, the Children's Forest was designated as a special interest area. Many of the Critical Biological land use zone locations suggested are indeed important for species conservation. We used a variety of conservation methods in the selected alternative (4a) for long-term protection of these habitats where locations were not designated as Critical Biological zones. Of the nine Critical Biological land use zones designated in the selected alternative on the San Bernardino National Forest, four were designated to protect federally-listed plant habitats. Please see table 365: Primary Species within Critical Biological Land Use Zones in the FEIS for names of Critical Biological zones, locations and the species they were designated to protect.

Regarding the zoning in the selected alternative on the San Bernardino National Forest in Quino checkerspot butterfly habitat: A Critical Biological zone was designated in Bautista Canyon for several listed species including the Quino checkerspot butterfly. The Hixon Bautista off-highway vehicle (OHV) trail is not included in this zoning and use on this trail would continue. Lands to the north and south of Bautista Canyon were zoned as Back Country with the intention of analyzing a possible OHV loop trail to reduce effects to threatened, endangered and sensitive species. Land to the west of Bautista Canyon in Hixon Flat was zoned as Back Country Non-Motorized in a portion of the modeled and critical habitat for the butterfly.

Critical Biological zoning to protect Quino checkerspot butterfly key and occupied habitat has not been adopted in the area around Oak Grove on the Cleveland National Forest because the current management strategy for this species has been codified by standards included in this forest plan (see Standards 11, 12, and 30). The status, habitat, and presence of the Quino checkerspot butterfly are dynamic. The national forest has already instituted protection measures such as avoidance, exclosures, and interpretation that appropriately protect habitat in accordance with the terms and conditions of the existing U.S. Fish and Wildlife Service issued biological opinion. The national forest's intention is to manage Quino checkerspot butterfly habitat on a site-specific basis in accordance with new Standards and Strategies that have been integrated into the revised forest plan for the Cleveland National Forest (see Parts 2 and 3).

The area around and within the Oak Grove administrative site has been thoroughly surveyed for Quino checkerspot butterfly. This area is unsuitable habitat for the Quino checkerspot butterfly due to historic disturbance. There are no host species within the Oak Grove administrative site area.

Palm Canyon on the San Bernardino National Forest was not recommended as a Critical Biological zone but has been identified as the eastern boundary of the recommended extension of the San Jacinto Wilderness under the selected alternative (4a). The area along the eastern flank of Palm Canyon remains zoned for Back Country Non-Motorized use.

The Bautista Creek Critical Biological land use zone on the San Bernardino National Forest was designated in the selected alternative. Although, the San Bernardino kangaroo rat has not been found on National Forest System lands in Lytle Creek, we manage these lands to maintain suitable habitat. There are also county roads, flood control facilities, and water facilities in this location that caused us not to recommend the Lytle Creek area for Critical Biological land use zone designation in the DEIS, nor to propose to carry it forward into the selected alternative.

Some comments suggested that Critical Biological zones be established for protection of other than biological resources (e.g., protection of areas of special tribal concern). Critical Biological zones are not the appropriate vehicle for the protection of other resources or areas of concern. For example, tribal and heritage resources are protected in the forest plan through many different land use zones and appropriate special designations (such as special interest areas), as well as through forest plan Standards and Strategies (see Parts 2 [Appendix B] and 3). These are not discussed in detail here. The use of other non-federal designations (such as the State Native American Heritage Commission Sacred Area List) is outside the scope of the forest plan revision as it is an action not appropriate for the current level of planning.

The Forest Service should include various areas identified in specific comments in a Back Country Non-Motorized land use zone. (PC 9786)

On the Angeles National Forest, the majority of the areas north of Big Tujunga Canyon, south of Upper Big Tujunga Canyon, and the Upper Big Tujunga Canyon watershed are zoned Back Country Non-Motorized. Where state highways, paved county roads, system roads, powerlines, recreation residence tract, organization camps or other infrastructure occur, the zoning changes as appropriate.

One commenter requested designation of the national forest area around Wrightwood as Back Country Non-Motorized. The area to the south of the community is zoned as Back Country Non-Motorized in the selected alternative. Please see the response to PC 9776 in this section regarding the area north of Wrightwood.

One commenter requested that the area in the Front Country Place just north of Azusa be designated as Back Country Non-Motorized with some wilderness. In the selected alternative, there is a small amount of acreage in the Developed Area Interface zone around some private property in the area and along State Highway 39. There also is some acreage zoned as Back Country along some service roads in and around San Gabriel and Morris Reservoirs. However, the zoning in this area is primarily comprised of the Back Country Non-Motorized and Back Country Motorized Use Restricted land use zones.

Based on public comment, the Cleveland National Forest refined and expanded the Back Country Non-Motorized zoning displayed in Alternative 2 of the draft plan in many areas of the national forest, including several mentioned in this response.

The national forest feels that the zoning changes made in the Laguna Mountain area in the selected alternative will provide better protection for the area around the Sunrise Scenic Highway, the Lucas Ranch, and Kwaaymii areas of special tribal concern. This new zoning is intended to maintain the natural character and appearance of the Laguna Mountain area, and help protect against the loss of valued and sensitive habitat.

Back Country Non-Motorized zoning increased in the areas around Pine Creek Wilderness, Corte Madera Mountain, and Bear Valley. In addition, the Back Country Motorized zone concept displayed in the draft plan has been refined and applied to distinguish between areas where public motorized access is suitable (Back Country) and areas where motorized access is allowed for administrative purposes only (Back Country Motorized Use Restricted). Management intent is to continue to supply motorized public access to corridors that have been specifically designated for motorized use, such as the Bear Valley Road, Los Pinos Road, and Corte Madera Road and to supply OHV opportunities on designated routes within Corral Canyon OHV area and on existing routes outside Corral Canyon specifically designated for OHV use.

One commenter requested designation of Blackstar and Harding Roads as Back Country Non-Motorized. Although the motorized zoning along the Black Star Canyon Road corridor has been narrowed, the motorized zoning displayed in the draft plan has been retained and reflects actual on-the-ground management practices. Management intent for this area is to maintain the unroaded, undeveloped, natural character of the general area, and to continue to support motorized use of the Black Star Canyon Road. Harding Road has also been retained as Back Country. This area is currently used only for hiking, mountain biking, and equestrian use, and there are outstanding needs for rights-of-way to be obtained by the Forest Service. The desired condition is for this route/area to be open to the public for motorized use.

Back Country Non-Motorized zoning was refined and expanded in the Trabuco Ranger District. The Back Country Motorized (BCM) zone concept displayed in the draft plan has been refined to distinguish between areas where public motorized access is suitable (Back Country) and areas where motorized access is allowed for administrative purposes only (Back Country Motorized Use Restricted). Management intent is to reduce the potential for adverse affects to sensitive resources due to unmanaged recreation.

The Trabuco Inventoried Roadless Area has been zoned Back Country Non-Motorized with the exception of the existing road corridor along the Ortega Highway and areas where motorized access for community protection, fire suppression, vegetation management, or to access private land or permitted uses already exists. This zoning reflects a continuation of the previous management direction for the area. This area was also evaluated for wilderness potential; however, wilderness designation is not recommended due, in part, to public comment supporting continued access for mountain biking.

Back Country Non-Motorized zoning has been refined or expanded in the Silverado Canyon region (Silverado Place). Back Country Non-Motorized zoning has been adjusted in areas that lack existing National Forest System roads and unclassified roads. Typically these areas have been managed for non-motorized use because sensitive resources and/or steep terrain constrain opportunities for motorized access, and the need for motorized access for recreation, community protection, fire suppression, vegetation management, or to access private land or permitted uses is limited. In general, conversion of roads to hiking trails is suitable in all land use zones. The decision to convert a particular road to a hiking trail will be analyzed and determined through site-specific analysis. In the area around Silverado Canyon, the management intent is for non-motorized trail-based access only. The Silverado Truck Trail is too steep for motorized access.

The Los Padres National Forest received a number of comments requesting that unroaded portions of various areas in the Big Sur coast area be zoned as Back Country Non-Motorized.

One such request regarded the Little Sur River watershed. In the selected alternative, the land use zones have been better defined to clarify management intent and to describe the suitability of various activities in each of the zones. Areas of the national forest were included in the Back Country Non-Motorized zone based on specific criteria and where it is the agency's intent to manage for non-motorized public access over the life of the revised plan. A Back Country corridor remains in the final land use zoning to accommodate existing access. This then transitions into a Back Country Motorized Use Restricted zone to accommodate fuels management projects in the area of Little Sur. Several protection agreements are

being developed with private landowners. There are no management plans to disturb the Little Sur in any way.

Under the selected Alternative 4a, the Big Sur coast is generally zoned as Back Country Motorized Use Restricted or Back Country Non-Motorized. Back Country zoning is used only for road corridors and existing developed areas. Existing roads and access is maintained for purposes of transportation to existing recreation and administrative sites and to facilitate fuels and resource management. Maintenance of the scenic viewshed and rural character of Big Sur is the desired condition and management activities are limited with no proposed expansion of recreation sites. Please see the Big Sur Place description in Part 2 of the forest plan for the Los Padres National Forest. In addition, The Big Sur Coast Land Use Plan has been referenced as a guide for activities within the coastal zone (see Part 3, Appendix A).

The Big Sur area is now predominantly Back Country Motorized Use Restricted, which means the Forest Service has administrative access for resource and fuels management, and for fire suppression. The public is restricted from all forms of motorized use in this zone. This zoning also supports the Big Sur Place emphasis on retention of the scenic backdrop and ecosystem while proposing no new development of camping and day-use facilities. National Forest areas closest to the community are zoned Developed Area Interface.

One commenter requested designation of the Pfeiffer/Cooper Beach shoreline as Back Country Non-Motorized. The Developed Area Interface designation was chosen in the selected Alternative 4a. That decision is a reflection of the proximity of Big Sur and the need to manage for a high degree of human influence. That should not be interpreted as an intent to expand Pfeiffer Beach Campground or to allow other uses on the adjoining beaches. Referring to the Big Sur Place description, the desired condition is to maintain the internationally known viewscape and ecosystem. The management emphasis is on adaptive reuse of existing day use and camping facilities as opposed to expansion or destination types of uses. There are no plans for any kind of public motorized access to Cooper Beach.

In the selected Alternative 4a, the zoning in the North Coast Ridge area is now Back Country Motorized Use Restricted, which limits access to administrative use for authorized special-uses, fire suppression, and resource management.

Two areas in the vicinities of Prewitt Ridge and Mill Creek have been designated Back Country Non-Motorized. Corridors of Back Country have been created for existing roads. This allows current access and usage to remain while protecting unroaded areas. Generally, Big Sur is a place of preservation, not expansion or development. No new roads are planned but existing ones are retained to facilitate public access, resource management, and fire suppression.

Brazil Ranch is zoned Back Country to the west of Highway 1 where motorized access is appropriate and Back Country Motorized Use Restricted to the east of Highway 1. Thus, access to the largest part of the scenic Brazil Ranch and its facilities is for administrative use only. General motorized access by the public is excluded except by permit. The Big Sur Place management emphasis for Brazil Ranch is on group usage for environmental education and similar authorized functions. The Big Sur emphasis generally is on preservation of its character, scenic quality, and ecosystems.

Referring to the selected Alternative 4a zoning map, the area near Gorda has corridors of Back Country around existing roads and two core areas of Back Country Non-Motorized where there are no roads. This continues existing uses while protecting the unroaded areas. The Big Sur Place description discusses the overarching goal of preservation of the scenic values of Big Sur and proposes no expansion of facilities and uses to avoid degradation of the character of the Big Sur coast. Emphasis is also placed on preserving the overall pastoral character of Big Sur and its ecosystems. The small portion of Developed Area Interface zoning at Gorda is recognition of the need to manage for a concentrated community influence. That does not imply an expansion of facilities or uses. Again, the emphasis for Big Sur is for adaptive reuse of existing day use and camping areas, not on expansion or development as a destination resort area.

Based on public comment, the Back Country zoning of the area just southeast of the American Canyon Campground between private land and the Machesna Wilderness has been adjusted to Back Country Motorized Use Restricted in the revised forest plan. This illustrates that the area will be available for public use as a non-motorized use zone and administrative access is still required for the area. This zoning reflects how the area is currently managed.

The Lion Canyon area (Cuyama/Highway 166 Place) is zoned as Back Country Motorized Use Restricted in the selected alternative. This designation allows for administrative motorized access only. The road along the Sierra Madre ridge is gated and has been closed except for administrative use for some time. Looking at the map, notice that the combination of the San Rafael and Dick Smith wildernesses plus the motorized use restricted area on the Cuyama side make a very large protected area for the condors to inhabit.

All of Cuesta Place is now either wilderness or Back Country Motorized Use Restricted, with a small section of Back Country Non-Motorized near Lopez Lake. Thus, the entire Place is either non-motorized or restricted to administrative motorized access only. The basis for the selection of BCMUR for most of the Place outside of wilderness is that access for fuels management and fire suppression are still needed give the adjacent community of San Luis Obispo. The restriction on public motorized use allows the management emphases to maintain or enhance habitat linkage from Cuesta East to Cuesta West across Highway 101. As the Place description states, a goal is to acquire land that will allow construction of a wildlife corridor under Highway 101.

Cuesta Ridge is zoned as Back Country Motorized Use Restricted in the selected Alternative 4a with the exception of a narrow corridor of Back Country allowing public access to Tassajera Peak. This will generally restrict any kind of public motorized use except on the road. Administrative motorized access for fuels management or other resource needs is allowed.

On the San Bernardino National Forest, the City Creek Critical Biological land use zone was designated in the revised forest plan. In response to the comment to adjust the zoning to protect mountain yellow-legged frog habitat, the Critical Biological zone boundary was expanded south to the national forest boundary to include all the habitat for mountain yellow-legged frog and proposed critical habitat for the southwestern willow flycatcher. Lands surrounding the Critical Biological zone were zoned as Back Country Non-Motorized.

In the revised forest plan, the south side of the Sugarloaf Mountain Roadless Area was zoned as Back Country Non-Motorized. The north side was zoned as Back Country Motorized Use Restricted to allow potential access for future fuel treatments as necessary. The Sugarloaf Meadow Critical Biological zone was also designated. The San Gorgonio Mountain area was zoned using a combination of Back Country Motorized Use Restricted and Back Country Non-Motorized land use zones. Areas of land on the west and south side of the existing San Gorgonio Wilderness were also recommended for wilderness designation.

Concern over the San Bernardino bluegrass prompted one commenter to request Back Country Non-Motorized zoning in the Bear Valley area. A portion of the occupied habitat for the San Bernardino bluegrass was designated as Back Country Non-Motorized land use zone. Site-specific actions completed over the last seven years to protect this species will also remain in place. The selected alternative also designates the South Baldwin Lake Critical Biological land use zone which contains suitable habitat for the San Bernardino bluegrass. Standards located in Part 3 of the forest plan that apply to listed species and riparian area management will also provide protection for this species. See also Part 1, Goal 6.2-Biological Resource Conditions for a description of the desired condition for federally listed species and how monitoring and evaluation will occur in these habitats.

The San Bernardino National Forest considered the management of Nelson's bighorn sheep when crafting the land use zoning. Nelson's bighorn sheep are expected to benefit from the increase in non-motorized land use zoning and acreage recommended for wilderness in Alternative 4a.

South Fork Canyon and Cahuilla Mountain were zoned as Back Country Non-Motorized in the selected Alternative 4a. Pyramid Peak itself was zoned Back Country; however, lands to the north, east, and south east are recommended for an extension of the San Jacinto Wilderness.

The Forest Service should include various areas identified in specific comments in a Critical Biological land use zone. (PC 9795)

All of these areas were included in a Critical Biological land use zone in the selected alternative (Alternative 4a).

On the Angeles National Forest, a portion of the Upper Big Tujunga creek has been designated as Critical Biological land use zone in order to protect aquatic species and their habitat. No known populations or individuals exist in Big Tujunga Canyon.

On the San Bernardino National Forest, the Gold Mountain, Sugarloaf Meadow, Bertha Ridge, Bautista Creek, Bautista Canyon and South Baldwin Lake Critical Biological land use zones were designated in the selected alternative. The Deep Creek Critical Biological land use zone was designated in the selected alternative, with surrounding land zoned as Back Country Non-Motorized.

The Dark Canyon-Fuller Mill Creek Critical Biological land use zone was also designated in the selected alternative. Several minor adjustments to the boundary were made. The land use zone was extended to the south to include new occurrences of the mountain yellow-legged frog. The developed portions of Dark Canyon Campground, Fuller Mill Picnic Area, and Azalea Trails Camp Special Use Permit area are not included within the zone and will remain open. The Critical Biological land use zone is the creeks themselves and their banks and floodplains. Private lands are excluded.

On the Cleveland National Forest, Critical Biological zoning along San Luis Rey River (Main) corridor is designated in the selected alternative. The depiction of this zone may have been obscured due to the scale and resolution of map in the draft plan. In addition, this segment of the river corridor has been determined to be eligible for wild and scenic river designation because it supports the largest known population of riparian-dependent southwestern willow flycatcher in California.

The Forest Service should include various areas identified in specific comments in a Back Country Non-Motorized land use zone. Responses for each area recommended in various comments are included below. (PC 9796)

These areas are zoned as Back Country Non-Motorized in the selected alternative (4a).

The majority of the areas on the Angeles National Forest evaluated for wilderness have been zoned either Back Country Non-Motorized or recommended wilderness. Where roads occur in these areas, they have been zoned Back Country Motorized Use Restricted, which means that motorized access is only allowed for administrative or authorized purposes. The portion of the Pleasant View Inventoried Roadless Area that lies in the Mojave Front Country Place is zoned Back Country Non-Motorized. The Alternative 4a (selected) maps show the zoning of any of the areas evaluated for wilderness.

The majority of the area south of Acton has been zoned Back Country Non-Motorized in the selected alternative. The road that accesses the Mill Creek plantation is zoned Back Country Motorized Use Restricted. This means that only administrative or permitted motorized access is allowed. The exceptions are the existing designated OHV routes in the area, including National Forest System Roads 4N32 and 4N33, which are zoned Back Country. Changing these designations are site-specific decisions and beyond the scope of the forest plan revision.

The Sawpit/Monrovia Peak area has been zoned either Back Country Non-Motorized or Back Country Motorized Use Restricted in the selected alternative. Both land use zones would protect the biological diversity in the area.

In the selected alternative, all lands managed by the San Bernardino National Forest adjacent to the San Manuel Reservation were zoned Back Country Non-Motorized.

The area east of Bautista Creek from the national forest boundary southeast to the private land in Section 18 has been designated as Back Country Non-Motorized, adding resource protection adjacent to the Critical Biological zone along Bautista Creek.

Cucamonga Creek is zoned as Back Country Non-Motorized in the selected alternative.

In general, the area north of Highway 74 and west of the national forest boundary is zoned as Back Country Non-Motorized. The zoning changes to Developed Area Interface or Back Country in consideration of infrastructure and private parcels, as is the case when the community of Mountain Center is reached.

Based on public comment, the Cleveland National Forest has refined or expanded Back Country Non-Motorized zoning in several areas of the national forest, including the Black Mountain/San Dieguito Place. The Program Emphasis for the Black Mountain/San Dieguito Place has also been refined to clearly articulate the national forest's commitment to passive recreation and regional open space planning efforts, such as the San Dieguito River Valley Regional Open Space Park planning concept (see Part 2 of the forest plan).

In the area around Pamo Valley, the zoning displayed in the draft plan was adjusted to maintain unroaded core areas. Management intent is to maintain the non-motorized character and wildlife values. In the northern part of Pamo Valley (along the Lusardi Road), the patterns of private land ownership are complex and opportunities for motorized public access are limited. Zoning in this area has been changed from Back Country to Back Country Motorized Use Restricted to allow motorized administrative access and landowner access as well as nonmotorized public access for hunting and other purposes.

Concern for protection of the habitat corridor between the Santa Ana Mountains and the Chino Hills prompted a request for Back Country Non-Motorized designation of the Sierra Peak/Cole Canyon area. The north end connecting to the linkage was zoned Back Country Non-Motorized in the selected alternative. The Elsinore Place description states the desire to maintain the corridor (see Part 2, Place-based Emphasis).

The Forest Service should include the area identified in specific comments in a Back Country land use zone. (PC 9799)

The areas east of Lower Little Rock Creek and south of Santiago Road have been designated as Back Country Non-Motorized land use zones. However, National Forest System Road (NFSR) 5N04, Little Rock Creek Road, and NFSR 4N20, Santiago Road are currently designated as OHV routes and zoned Back Country. Changing these existing designations are site-specific decisions and are beyond the scope of the forest plan.

Plan Part 1 - Vision, Desired Future Condition

The Forest Service should include water quantity in the Desired Conditions to maintain habitat for steelhead. (PC 562)

The Desired Conditions in the draft and the final Part 1 of the forest plan that benefit southern steelhead can be found in Goal 6.2 - Biological Resource Conditions, as well as in Goal 5.1 - Watershed Function and Goal 5.2 - Riparian Condition. The "Biological Resource Conditions" and "Watershed Function" sections speak specifically to quantities of water as follows: "Flow regimes in streams sufficient to allow the affected species to persist and complete all phases of their life cycles" and "Watersheds, streams,

groundwater recharge areas, springs, wetlands and aquifers are managed to assure the sustainability of high quantity and quality water."

The Forest Service should acknowledge that a number of threatened and endangered species have been effectively extirpated from some or all portions of the four Southern California National Forests in the Southern California National Forests' Vision document. (PC 563)

In Part 1 of the draft forest plan's Vision, the second niche statement discusses that the national forests are "areas where exceptional concentrations of endemic species are undergoing exceptional loss of habitat." Because both Parts 1 and 3 relate to all four southern California national forests, there is not room to describe in full detail which species and which associated habitats have been lost or are currently at risk. However, detailed discussion about this situation can be found in Chapter 3 - Biological Diversity Affected Environment of the FEIS and in the Reading Room within the individual Species Accounts for the 484 Species of Concern.

The Forest Service should address access to and from the ocean and past migration barriers for the southern steelhead in the Desired Conditions. (PC 564)

In Part 1 of the Los Padres National Forest draft forest plan, the Desired Condition section for Fish, Wildlife and Plant Habitat states that "Flow regimes in streams that provide habitat for TEPCS aquatic and riparian dependent species are sufficient to allow the affected species to persist and complete all phases of their life cycles." This Desired Condition allows for and supports the Forest Service's involvement in collaborative efforts to restore southern steelhead fish passage beyond migration barriers as opportunities present themselves. In addition, please see the Desired Condition found in the final forest plan - Part 1, Goal 6.2 Biological Resource Conditions, which includes new language pertaining to fish habitat conditions, as well as upstream and downstream migration for fish.

The Forest Service should include reconciling the need to manage areas at risk where cultural and tribal historic resources are located (Vision-6) in the management challenges section. (PC 1424)

Text was added to reflect that management challenges related to fire include heritage resources and areas of concern for Tribes and the Native American community.

The San Bernardino National Forest should revise its "Desired Conditions" for Wilderness to address visitor use, prescribed fire, and the natural process of fire. (PC 2222)

Desired Conditions for wilderness are found in Part 2 of the forest plan, Place-Based Program Emphasis, as appropriate. A discussion of visitor use and prescribed fire is found in the FEIS, Chapter 3, Wilderness.

Plan Part 1 - Strategic Goals and Subgoals

The Forest Service should describe what are considered geologic resources in more detail. (PC 554)

The revised version of Part 1 (Strategic Goals) includes details of what are considered "geologic hazards" and "geologic resources."

The Forest Service should consider including the protection of imperiled species as a Strategic Goal to comply with the National Forest Management Act and Endangered Species Act. (PC 561)

We have revised Part 1 of the forest plans to include the following goal: "Provide ecological conditions to sustain viable populations of native and desired nonnative species." We have included in this goal the following desired condition: "Habitats for federally listed species are conserved, and listed species are recovered or are moving toward recovery." Please see Goal 6.2 in Part 1 of the revised forest plans.

The Forest Service should substantiate or document Goal 5 (Improve watershed condition). (PC 565)

Goal 5 (Improve Watershed Condition), found in the draft forest plan, Part 1 describes the over-arching Government Performance and Results Act (GPRA) Priority Goals as described in the Forest Service

National Strategic Plan (2003 Revision). To further refine these broad goals for the southern California national forests, desired condition statements have been developed along with forest-specific objectives. Please see Part 1 of the final forest plan, Strategic Goals, Goal 5.1 – Watershed Function. The desired condition is that national forest watersheds are healthy, dynamic and resilient, and are capable of responding to natural and human caused disturbances while maintaining the integrity of their biological and physical processes. A watershed condition rating assessment was completed across the four southern California national forests in 2001 using Geographic Information System (GIS) map layers (geologic hazard, soils hazard, and hydrologic function hazard indicators) and the experience and knowledge of interdisciplinary team members to provide ratings to each of the 88 watersheds across the national forests.

The Forest Service should consider including curation of existing and future collections from Forest Service lands as one of the Strategic Goals for Heritage Resources to meet the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA). (PC 567)

It is felt that the preservation and/or enhancement of heritage sites includes the adequate curation of any collection associated with the sites. The national forests are currently or have met their requirements to the Native American Graves Protection and Repatriation Act in terms of returning material and burials to the appropriate group as defined by the regulations. 36 CFR 79 was listed in Appendix A of Part 3 of the forest plan, and is the guideline that the national forests must meet when collections from the national forest are curated, either by the national forest or some other agency or entity (such as the San Diego Archaeological Center).

The Forest Service should clarify how they will meet Goals 3 and 4. (PC 568)

The goals identified in the draft documents have been revised for clarification in the final forest plan. The goals have been made more specific and focus on how National goals are reflected within the four national forests of southern California. This is also explained in the discussion about the Niche (roles) that the national forests have in meeting these goals, (the aptitude of the national forests). The national forests through the mission of multiple resource management have a responsibility to support both outdoor recreation needs and energy resource needs. More specific actions are identified in the Place Emphasis in Part 2 of the forest plan. These are the actions to be expected over the next three to five years moving the national forests towards the Desired Condition. Specific project actions to meet these goals are not part of this strategic plan, but rather will be addressed during project planning.

The Forest Service should emphasize preservation and enhancement of the natural forest habitat as a Strategic Goal of the revised forest plan. (PC 570)

Please see a description of the selected alternative in Chapter 2 of the FEIS. Please see the revised forest plans including their revised land use designations and revised designation of suitable uses. Please see Goals 3.1, 6.2, and 7.1 in Part 1 of the revised forest plans for desired condition statements related to enhancement and protection of forest health; wildlife corridors; threatened and endangered species; and management indicator species.

The Forest Service should clarify how it will resolve conflicting goals dealing with risks to biodiversity or wildlife corridors; rapid growth of Wildland/Urban Interface (WUI) occurring outside the forest; and the southern California populations' need for wild and open spaces. (PC 3007)

A number of parts of the revised forest plans address the topics mentioned in the comment. Please see Goals 6.2 (Biological Resource Conditions) and 7.1 (Natural Areas in an Urban Context) in Part 1 of the revised forest plans. See Part 2 of the revised forest plans for the Angeles, Cleveland and Los Padres National Forests, Wildlife, Fish, and Plants Management, which state “There is also an emphasis on minimizing habitat loss and fragmentation through the conservation and management of habitat linkages within and, where possible, between the national forests and other public and privately conserved lands.” In the San Bernardino National Forest revised plan this is stated as “Habitat loss and fragmentation will

be reduced through continued participation in regional efforts to create and preserve an interconnected open space network.” See Part 2, Appendix B, WL 1 for strategies that address wildlife corridors and development in the Wildland/Urban Interface. Standard 22 in Part 3 of the revised forest plan is intended to provide for wildlife movement when linear structures are built. Standard 34 is specifically designed to resolve conflicts between recreation use and the needs of threatened, endangered, proposed, candidate, and sensitive species. Chapter 3 of the FEIS, Environmental Consequences, Resource Management, Biological Diversity section identifies measures that can be used to protect biological resources and species viability.

The Forest Service should address other threats besides fire to forest health in the Strategic Goals section such as soil erosion, human disturbances, introduction and spread of invasive nonnative species, and impacts of livestock grazing. (PC 4031)

Part 1 of the forest plan Strategic Goals has been modified to address each of these concerns. See national forest Goals 1 through 7.

Plan Part 2 - Strategy

The Forest Service should inventory and document the distribution and abundance of the Laguna Mountains skipper's host plants, *Horkelia clevelandii* and *Potentilla glandulosa*, in the Laguna and Palomar Mountains, and map any new host plant occurrences as "key habitat." (PC 1241)

Conducting inventories and surveys for Laguna Mountains skipper is identified as a conservation strategy emphasis in WL-1, Appendix B of Part 2 of the Cleveland NF revised forest plan.

Standard S9 has been added to the revised forest plan for the Cleveland National Forest in order to protect the Laguna Mountains skipper (see Part 2, Place-specific standards, Laguna and Palomar Places). The standard directs that activities resulting in direct trampling or erosion problems to Laguna Mountains skipper suitable and occupied habitat and adjacent areas be avoided or mitigated as per consultation.

The Forest Service is no longer using the term 'key habitat'. New information regarding the location of Cleveland's horkelia (*Horkelia clevelandii*) in the Laguna Mountains and Cleveland's horkelia and cinquefoil (*Potentilla glandulosa*) in the Palomar Mountains has been used to update our suitable habitat maps for Laguna Mountains skipper.

The Forest Service should consider the 1987 Angeles National Forest Plan and add details to the "Recreation Plan Standards" in the draft revised Forest Plan. (PC 70)

This forest plan is a strategic document and does not go into the level of detail of previous planning efforts but rather better provides a living document that provides the direction and desired conditions that each national forest will develop further at the project level. In Part 2 of the forest plan, the program strategies for recreation and the Place emphasis describe the intent of the recreation program and the specific actions anticipated for the next 5+ years for each Place. The land use zones have been refined to better explain where activities are appropriate and this is again reflected in the theme for each Place in Part 2 of the forest plan.

The Forest Service should make available complete information regarding the proposed Milpitas SIA. (PC 102)

We added the Milpitas Special Interest Area summary to the final revised LPNF forest plan, Part 2, Special Designation Overlays section and Appendix A.

The Forest Service should reconsider unexplained inclusions in the Forest Plan, specifically the statement "The Scenic Highway Implementation Plan will be implemented. Snow play opportunities will be assessed. Management of special use authorizations will occur along with resolution of water diversion issues." (PC 139)

The Corridor Management Plan for the Angeles Crest Scenic Byway is currently under development with public participation and partnership. The emphasis within these Places will be on implementing that corridor plan as appropriate and opportunities arise. The other items mentioned are part of the program emphasis to reach the desired condition. The program emphasis for each Place has been revised to reflect public input and the zoning in the final forest plan.

The Forest Service should ensure that site-specific project decisions are consistent with the Land Management Plan unless the plan is modified by amendment. (PC 140)

The Purpose of the forest plan and Adaptive Management Framework section in Part 1 of the forest plan describes how forest plans are implemented. The forest plans are to adapt in reaction to monitoring and evaluation, with public participation. We believe that the emphasis for the Angeles High Country is explained at a level appropriate to a forest plan. None of the project-level decisions associated with the activities mentioned are being made as a part of this forest plan. Site-specific planning has already occurred or will occur at a later time. The Scenic Highway Implementation Plan is available for your review at the Angeles National Forest Supervisor's Office.

The Forest Service should identify the significance of the Pacific Crest Trail in the Revised Forest Plans by including emphasis in the theme of each place the Pacific Crest Trail goes through. (PC 152)

Based on public comment, the Pacific Crest National Scenic Trail alignment will be clearly identified and labeled on the land use zoning maps for Alternative 4a in order to provide sufficient recognition for the trail. Specific direction concerning the trail's management is incorporated in the Place-based direction for the Morena, Laguna, Aguanga, San Gorgonio, Big Bear Backcountry and Arrowhead Places, as well as Angeles High Country, Soledad Front Country, Santa Clara Canyons, and Liebre Sawmill Places on the Angeles National Forest. A Place-specific standard has also been added to the direction for Places that contain the Pacific Crest National Scenic Trail. In addition, agreements, guidelines, and laws that provide direction for management of the Pacific Crest National Scenic Trail are also incorporated by reference into the revised forest plans (see Part 3, Appendix A, Laws, Policies and Other Direction). Management intent is to reflect the significance of the Pacific Crest National Scenic Trail.

The Forest Service should add hiking into the title of dispersed camping, and to change the classification in Wilderness areas from "Suitable" to "Where Justified" to allow the Forest Service the ability to control which areas are open for hiking and camping, as appropriate. (PC 353)

The description of dispersed camping is found in the Recreation section (Affected Environment) of the FEIS. Dispersed (also known as remote or primitive) camping occurs outside of developed campgrounds. It occurs in both wilderness and non-wilderness areas, with or without a vehicle. However, most dispersed camping use occurs by vehicle.

Trails (hiking) is discussed in the FEIS. In the Suitability Tables hiking is not illustrated because it is suitable in all land use zones.

The Forest Service should consider the existing community resources of Big Sur in the plan. (PC 525)

The Big Sur Place description in Part 2 of the forest plan puts emphasis on preservation of the natural ecology and scenic beauty while focusing on adaptive reuse of existing day-use and camping opportunities as opposed to expansion of facilities or destination-oriented use. In addition to existing wilderness, the balance of land use zoning of Big Sur is mostly Back Country Motorized Use Restricted

which allows administrative access for vegetation management and fire suppression while prohibiting general motorized use. To the extent that these management emphases complement the needs of Big Sur, the Forest Service has protected the community resources of Big Sur. The zoning emphasis on preservation of the Big Sur with its scenic backdrop for Highway 1 and limitations on opportunities for increased traffic are consistent with the Big Sur Land Use Plan while maintaining access to the coast is consistent with the California Coastal Act.

The Forest Service should emphasize the importance of the Angeles National Forest as part of wildlife movement areas from the San Gabriel Mountains east of SR-14, across SR-14 and I-5, to Los Padres National Forest west of I-5 in the Place Based Program Emphasis section. (PC 550)

This emphasis has been added to the Angeles National Forest Land Management Plan, Part 2 in the I-5 Corridor place emphasis section.

The Forest Service should include a provision in LM 1 (Landscape Aesthetics) through LM 3 (Landscape Character) to comply with the Big Sur Coast Land Use Plan's critical viewshed policies. (PC 571)

LM-1 through 3 are the strategies that will be used for maintaining the landscape character of the Big Sur Place. The Desired Condition for the Big Sur Place further describes the landscape character and the condition it will be managed for over time. The national forest is managed to achieve Scenic Integrity Objectives (SIOs) based upon FSH 2380. The SIO describes the minimum levels for any scenic alterations for any given area of the national forest. The Big Sur Coast Land Use Plan is compatible with the SIOs for the Big Sur Place and with sense of place outlined in the Built Environment Image Guide. Part 3 of the forest plan has been updated to include the Big Sur Coast Land Use Plan, as a guide, in Appendix A, under State and Local Laws and Regulations. This will ensure that the direction for critical viewsheds is incorporated in project plans within the Big Sur Place.

The Forest Service should assign a high priority to implanting plans and habitat conservation strategies that protect federally listed species found on or dependent upon National Forest lands to ensure long-term ecosystem health, biological diversity, and species recovery. (PC 572)

The national forest intends to use a combination of land use zone designations and forest plan goals, objectives, and standards as a strategy for providing for the protection of habitat for steelhead trout, as well as many other species of concern across the Cleveland National Forest. In addition, the upper San Mateo watershed is located in the San Mateo Canyon Wilderness, which offers the maximum amount of protection available. Please see Chapter 3 of the FEIS, Resource Management, Biological Diversity, Affected Environment, Resource Protection Measures, which identifies the measures necessary to protect biological resources and species viability.

The Forest Service should implement the Research Natural Areas (RNAs), Special Interest Areas (SIAs) and Critical Biological zones proposed by the California Native Plant Society for the Los Padres National Forest. (PC 790)

Of the six RNAs specifically mentioned by the California Native Plant Society, only one, Cobblestone Mountain, has not been recommended in the selected Alternative 4a. Cobblestone Mountain is a short distance from the recommended White Mountain RNA. Both RNAs feature bigcone Douglas- fir, with White Mountain being the more accessible RNA with trail access. Both RNAs are in the Sespe Wilderness so that Cobblestone Mountain will always be available for study and future recommendation as an RNA. In addition to CNPS's recommended RNAs, three more RNAs are included in Alternative 4a.

The three SIAs (termed Critical Biological zones in the letter) requested by CNPS are included in Alternative 4a. The Camatta Canyon amole, *Chlorogalum purpureum reductum*, is in the Camatta Canyon SIA. In addition to these three SIAs, seven more botanical SIAs were included in Alternative 4a.

The Forest Service should clarify the location of Laguna Place. (PC 896)

"Laguna Place" describes the management unit boundaries portrayed in the Atlas of Southern California Planning Maps attached to the Cleveland National Forest Plan. Laguna Place is larger than the top of Laguna Mountain, larger than the Laguna Mountain Recreation Area, and includes the Lucas Ranch. The boundaries are suggestive rather than literal and are intended to encompass a broad area of land that is readily identifiable to the general public. Within this setting, the management challenges, desired future condition, and management emphasis are distinctive.

The Forest Service should consider a policy supporting the River Park's Concept Plan so that the Cleveland National Forest plan is consistent with the Concept Plan. (PC 917)

In contrast to earlier land management plans, the new forest plan for the Cleveland National Forest is intended to supply strategic and programmatic direction. Land-use zoning is used to define suitable land management activities, such as new trail construction. The decision to construct new trails or to convert a particular road to a hiking trail will be analyzed and determined through site-specific analysis.

Based on public comment, the Back Country Non-Motorized zoning displayed in Alternative 2 of the draft forest plan has been refined or expanded in many areas of the national forest, including the Black Mountain/San Dieguito Place. The Program Emphasis for the Black Mountain/San Dieguito Place has also been refined to better articulate the importance of interagency planning efforts, such as the San Dieguito River Valley Regional Open Space Park planning (see Part 2).

The Forest Service should add information about the recreation residence tracts in the Forest Plan including in the place descriptions. (PC 1862)

Based on public comments, recreation residence tracts with approved recreation residences have been identified as "Other Designations" in Part 2 of the forest plans.

The Forest Service should improve the boundaries of the Big Sur Place. (PC 3068)

The Place boundaries include the national forest boundary. The heavy dashed line represents the internal boundary of the Place only and uses the solid national forest boundary line for the external boundaries. The Place boundaries are also shown in Part 2 of the forest plan along with the description of each Place. In the final forest plan, a separate map of the Places is provided in Part 2. Place boundaries are removed from the zoning maps to avoid confusion.

The Forest Service should modify the draft EIS to be clearer about what the reader could reasonably expect to occur overall on the forests in order to allow a meaningful comparative evaluation. (PC 3085)

Part 2 of the forest plan identifies the program emphasis for each Place. This is what can reasonably be expected for the next three to five years in each Place and provides the specific activities that can be expected.

Hiking trails are located in all of the land use zones. Many of these trails are open for mechanical use (mountain bikes) as well as hikers and equestrian users. Although the acreage for non-motorized trail opportunities would be unchanged, it is currently expansive throughout the national forests in all land use zones. The acreage available for mechanized opportunities would be less based upon the additional zoning for wilderness where mountain bikes are not permitted and also less for motorized use for the same reason (FEIS, Chapter 3, Environmental Consequences, Non-Motorized and Motorized Trails).

The Forest Service should consider that mineral extraction be labeled as only allowed "Where Justified" in the more developed parts of the Forest (URI, DAI, and BC) and be classified as "Not Suitable" in Back Country Non-Motorized and sensitive areas (CB, W and EF) of the forest. Table 2.1.1 - Suitable Uses Resource Management - ANF (Disposal of National Forest System Lands) should also be changed to be consistent with this recommendation. (PC 3734)

The Organic Act opened the national forests to mineral activities. Only the Secretary of the Interior or Congress can determine that there is a higher public purpose served by prohibiting mineral activities. Suitable or Not Suitable refers to whether lands are open to the possibility of mining. Environmental analysis will determine what restrictions and mitigations are appropriate before mining can occur. The terms "Suitable", "Not Suitable" and "By Exception" will be used. By exception = "Conditions which are not generally compatible with the land use zone but may be appropriate under certain circumstances." We feel this covers the intent of this comment, and is more appropriate wording than "where justified."

Plan Part 3 - Design Criteria (Standards, laws, etc.)

The Forest Service should clearly identify the locations and extent of critical habitat for all listed species, and promulgate specific standards to prevent the destruction or adverse modification of such habitat to comply with National Forest Management Act regulations. (PC 549)

Designated critical habitat is part of the forest plan GIS database and this information was used for analysis in the FEIS and Biological Assessment. Standards to prevent the destruction or adverse modification of designated critical habitat are found in Part 3 of the revised forest plans, specifically the fish and wildlife standards.

The Forest Service should develop forest specific standards and guidelines. (PC 574)

Because the four southern California national forests share many ecosystem types and management challenges, a joint environmental analysis was undertaken by the four southern California national forests to provide in an efficient manner a strategic-level framework to guide future site-specific planning and activities. Each national forest has published a separate forest plan. Because of similarities amongst the national forests, many of the standards needed were common to all four southern California national forests. Forest-specific standards are found in Part 2 of the forest plans. We believe that these standards address the local issues surfaced and analyzed in the planning process.

There are no nationwide standards and guidelines for forest plans; however, the Forest Service directives (Manual and Handbook) do apply to all national forests, as described in Appendix A of the forest plans.

The Forest Service should include in the Design Criteria better protection for threatened, endangered, or protected species and broadened to include candidate and sensitive species. (PC 576)

Please see Standard S11 in Part 3 of the revised forest plan. This standard provides direction to use the species-specific and activity-specific guidance contained in the documents that are referenced in Appendix H for threatened, endangered, proposed, candidate, and sensitive species. Appendix H has been revised to include a list of relevant guidance documents and provides further information on the intent and use of these documents. See also Standard S24, which provides direction to mitigate impacts of all ongoing uses and management activities on threatened, endangered, proposed, candidate, and sensitive species." Note that both of these standards include candidate and sensitive species. S111 has been deleted. Management direction for concentrating public use away from threatened, endangered, proposed, candidate, and sensitive species habitat is now found under Goal 3.1 in Part 1 of the revised forest plans, under REC 2 in Part 2 of the revised forest plans, and under S34 of Part 3 of the revised forest plans. Design of any new recreational facilities or expansion of existing facilities will follow this direction.

The Forest Service should address identified threats to listed species in the Standards and Guidelines. The Forest Service should address grazing impacts on sensitive species in the Standards and Guidelines. (PC 578)

The effects of livestock grazing on these species is found in the Biological Diversity section (Environmental Consequences) of the FEIS. Standards that help to mitigate these effects are identified in the FEIS and are found in Part 3 of the forest plan and in Part 2 of the forest plans for forest specific standards. Threats to listed species are addressed by the revised set of Standards included in Part 3 of the revised forest plans. Please see Fish and Wildlife Standards. S11 and Appendix H provide direction to use species guidance documents during the design of new projects and when addressing resource issues related to ongoing activities. These documents provide species-specific guidance for the use of conservation practices that will avoid or minimize impacts to threatened, endangered, proposed, candidate, and sensitive species. Note that the second row of table 377 (Animal Species-At-Risk, Threats That Affect Them, And Standards That Address the Threats) in the FEIS refers to all species-at-risk, including Wilson's warbler and California gnatcatcher. This row includes S11 and its reference to species guidance documents. Please see the species accounts for Wilson's warbler and California gnatcatcher found in the Reading Room for conservation practices that can be used as needed for project standards.

The Forest Service should clarify all guidelines in the forest plan Appendix G that apply to areas occupied by the California condor. (PC 581)

The FEIS and Appendix G in Part 3 of the revised forest plan have been revised to include reference to microtrash and to clarify the intent of these guidelines as they pertain to areas occupied by the California condor. Strategy WL 1 in Part 2 of the revised forest plan has been revised to include reference to the need for education efforts on microtrash and the threat it poses to California condors.

The Forest Service should consider changing the Laguna Mountains skipper species account in the Design Criteria for the Southern California Forests Appendix H. (PC 582)

The species account for Laguna Mountains skipper has been revised.

The Forest Service should include standards and guidelines in the forest plan that will provide direction for Forest managers on how to accommodate population increases and the impact those increases will have on recreation facilities in the future. (PC 585)

Although no recreation specific standards are identified in Part 3 of the forest plan, many of the other resource standards identified in that section provide standards for recreation activities. In Part 2 of the forest plan, specific strategies for Recreation Opportunity (REC 1), Sustainable Use and Environmental Design (REC 2), Recreation Participation (REC 3), and Conservation Education (REC 4), provide the methods for addressing the issues of accommodating use growth and sustainability.

The Forest Service should consider that no standards are established in Research Natural Areas to define/control including limitations on recreational use numbers, proximity, duration of visits, etc. (PC 629)

Recreational limits for RNAs have been elaborated in FSM 4060. Each RNA is required to have a management plan that would detail any such limitations if needed to protect the target element of the RNA designation.

The Forest Service should develop a standard that requires discussion and consideration of the wildlife emphasis zones in subsequent National Environmental Policy Act documents because these zones are important to the biological value of the Forest. (PC 830)

The San Bernardino National Forest discussed creating a land use zone specific to the existing Wildlife Emphasis Areas on the national forest. A decision was made to consider these locations in the environmental analysis for proposed projects instead of creating a specific zone for these areas. The mapped locations of the Wildlife Emphasis Areas will be available for analysis on a GIS layer and the

importance of these locations will be retained on file. If these locations occur within the proposed project areas, they will be included in each analysis. The importance of each Wildlife Emphasis Area was also added to the Place Based Program Emphasis sections in Part 2 of the SBNF Plan. A strategy for the management of these areas is listed in WL 2 in Appendix B of Part 2 of the forest plan and a standard for management is listed in the Place-Specific Standard section in Part 2 also.

The Forest Service should consider an alternative for in-lieu lots outside these areas in adjacent national forests. (PC 914)

Provisions for in-lieu lots are addressed in the forest plan. See Standard S41 in Part 3. In addition, in Part 2, Strategy REC 5 focuses on recreation special-use authorizations. The forest plan addresses only those issues that are within the scope of the national forest to implement. Consideration of in-lieu lots outside of the national forest is not within the scope of the forest plan.

The Forest Service should reconsider Standard S48 because it does not provide sufficient protection for the California gnatcatcher where it occurs outside a fifty-year high water line area for stream reaches. (PC 1149)

Standard S48 is written to provide protection of riparian and aquatic ecosystems. Grazing is not currently permitted in any suitable or occupied California gnatcatcher habitat, so there is currently not a need for a standard related to grazing and the gnatcatcher. Any change to existing permits, which would open suitable gnatcatcher habitat to grazing would need to be analyzed in a site specific NEPA document and Biological Assessment. Consultation with the Fish and Wildlife Service would be required if the Biological Assessment concluded that the action "May affect" the gnatcatcher.

The Forest Service should consider modifying Standard S30 to include candidate and sensitive species. (PC 1220)

Candidate species are generally included on the Forest Service Region 5 Sensitive species list. There is already Forest Service Manual direction to analyze the effects of any new project on sensitive species to make sure that Forest Service actions do not result in a trend toward federal listing. Standard S11 directs the Forest Service to consult species guidance documents during on-going activities or new projects for measures that can mitigate any potential negative impacts. Standards S12 and S24 protect candidate species equally with listed and proposed species. We feel that this direction would adequately protect candidate and sensitive butterfly species. At present there are no candidate or sensitive butterfly species on the southern California national forests.

The Forest Service should adopt a vegetation management standard requiring felling of all dead tress that threaten to fall on structures or routes of ingress or egress, and encouraging homeowners to fire-risk their houses in montane conifer forest types. (PC 1260)

This policy is in place. It is called hazard tree reduction and is applied in locations where infrastructure is present and also along National Forest System roads and ingress and egress routes. Hazard tree removal projects have increased greatly over the past few years due to the drought induced mortality and the increased potential for wildfire. There has also been an increase in Forest Service efforts to work with communities to educate and promote efforts for homeowners to create fire-safe property. This is an ongoing strategy that is accomplished through a variety of fire-safe councils, community meetings and educational programs across all national forests. Please see Goal 1.1 Community Protection in Part 1 of the forest plans. See also strategies titled Fire 1: Fire Prevention, Fire 2: Direct community Protection, Fire 3: Fire Suppression Emphasis, and Fire 4: Firefighter and Public Safety in Appendix B, Part 2 of the forest plans.

The Forest Service should implement restrictive recreational standards to important habitats and ecosystem processes. (PC 1800)

The Adaptive Mitigation for Recreation Uses has been amended to allow for a broader application of the protocol and address other resources being affected by recreation use (see the forest plan Part 3, Standard 18).

The Forest Service should consider that the plan revision is vague and standardless as it pertains to mining. (PC 3534)

The rules and procedures guiding mining activity on National Forest System lands are set forth in regulations 36 CFR 228. The forest plan provides general management direction for minerals resources in Part 2. Standards in Part 3 of the forest plan which specifically address mining, abandoned mines and related activities include: S23, S43, S44, S57, and S58. See also the response to PC 156 (Adequacy of Analysis). Regulations and standards which occur in the CFRs, FSM or FSH are not changing, and are not repeated in this forest plan.

Adaptive Management

Adaptive Management Emphasis

The Forest Service should consider an Adaptive Management emphasis. (PC 30)

Adaptive management is an integral part of forest planning and is intended in part to ensure sustainable use and protection of natural resources including species diversity and rangeland health. The intent of adaptive management is not to minimize constraints or avoid constraints, but rather to learn from experience and modify existing management practices when they are found to not meet specific objectives for protection of resources. We have modified the Revised Forest Plan to give greater emphasis to adaptive management. Please see Purpose of the Forest Plan and Adaptive Management Framework in Part 1. See also AM1 and AM2 in Part 2, Appendix B; and Monitoring of Design Criteria in Part 3. Monitoring of all three parts is summarized in Appendix C of the forest plan.

The Forest Service should use an Adaptive Recreation Mitigation Protocol to avoid or minimize negative impacts to natural or cultural resources. (PC 31)

Appendix D in Part 3 of the forest plan (Adaptive Mitigation for Recreation Uses) was revised to address this concern. We agree that in addition to threatened, endangered, proposed, candidate, and sensitive (TEPCS) species and habitats, these guidelines should also apply to other program areas as well. We will use these recreation implementation guidelines whenever a conflict between uses or sensitive resources is detected. Sensitive resources are defined to include TEPCS species and habitats, riparian habitats, soil and watersheds, heritage resources, user conflicts, or other resources. The direction has also been revised to clarify that stronger measures will be taken when immediately needed. See also Standards 34 and 50 that refer to Appendix D.

The Forest Service should improve the health of the National Forest System by following interventions with good research that is noted and fed back into the system so the same mistakes are not repeated. (PC 1438)

We have in place an adaptive management program through which we learn from our mistakes and successes. The role of adaptive management in the forest plan is described in the "Purpose of the Forest Plan and the Adaptive Management Framework" section in Part 1 of the revised forest plan. Also note that monitoring in all three parts of the forest plan is summarized in Appendix C in Part 3 of the forest plan.

The Forest Service should follow the Alaskan fisheries model of resource management and closely manage sensitive resources (e.g., limit access to the resource) to ensure a high-quality ecosystem over time. (PC 1780)

Please see the responses to public concerns 572 (Plan Part 2 - Strategy), and 803 (Land Use zoning and Overlays, place-based program emphasis). Based on public comments, the national forests have adjusted Alternatives 2 and 4 to more accurately reflect the management intent for the national forests over the life of the forest plan (10 to 15 years). As an example, many areas that were previously designated as Back Country have been adjusted to Back Country Motorized Use Restricted zoning. This zoning is used to restrict public motorized access into certain areas while allowing for administrative access, as necessary, to manage the land and resources. In addition, more Critical Biological land use zones have been included in the selected alternative based on public comments received. Please see the final forest plans, Part 2 for the maps and land use zone descriptions and allowable uses within each zone.

The Forest Service should apply adaptive management techniques that include commercial forest harvesting and forest-thinning processes under the Healthy Forests Initiative as a wiser, safer proactive way of improving forest conditions. (PC 3574)

Forest thinning is an appropriate silvicultural treatment and consistent with meeting restoration of forest health and community protection goals described in Part 1 of the forest plan as well as restoration of forest health objective FH 3 in Part 2, Appendix B - Program Strategies and Tactics. The revised forest plan for the San Bernardino National Forest also includes WP 1, which states that wood products will be offered, but clarifies that this will occur as a by-product of ecosystem management, healthy forest restoration, fuels management and/or community protection projects. Part 3 contains standards applicable to vegetation management projects. Adaptive management is incorporated into all parts of the forest plan. See also the response to PC 2504 (Timber Resource Management).

Multiple Use Emphasis

The Forest Service should manage national forests for multiple use; < and > The Forest Service should not manage national forests for multiple use. (PC 28)

Our legal mandate for multiple use is set within a context of sustainability. Section 4(a) of the Multiple Use Sustained Yield Act states:

"Multiple use means the management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and condition; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resource, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output."

The planning regulations (36 CFR 219.1(a)) state "plans shall provide for multiple use and sustained yield of goods and services from the National Forest System in a way that maximizes long-term public benefits in an environmentally sound manner." All alternatives allow for multiple use of the southern California national forests. The alternatives differ in the amount of each use that would occur if a certain alternative were implemented. A broad range of alternatives with various levels of uses and services including vegetation management, transportation management (roads and trails), wildlife and plant habitat, recreation, and rangeland forage were analyzed in the DEIS.

The selected alternative in the FEIS represents what national forest managers believe to be the best balance of uses and services in achieving sustainable ecosystems and meeting the intent of these laws, as well as in addressing the issues and concerns specific to the management of the four southern California national forests that were identified by the public and the Forest Service.

When the forest plan is implemented, the adaptive mitigation protocol for recreation sites (Appendix D) will be used to help manage the balance between recreational use levels and natural resources protection. Our intent is to maximize recreation enjoyment by using the most unobtrusive strategies or practices at recreation sites that will at the same time ensure sustainability of both natural resources and recreation opportunities. We believe that this protocol is applicable across the spectrum of recreation sites managed on the national forests. For example, ski area managers typically use these strategies. Ski resorts typically provide conservation education, sometimes including volunteer programs. Limiting the numbers of skiers at one time and using barriers for resource and skier protection are also typical. Presence of ski resort employees is of course an operational must. Should the above practices not be sufficient to protect species, ski area managers and the Forest Service would work together to find other solutions that might include some of the direct action practices listed in Appendix D such as site rehabilitation, site hardening and so on. Monitoring and the adaptive management cycle will be used to ensure that implementation of the forest plan is effectively moving the national forest towards its desired condition.

Purpose and Need for Proposed Action

Scope, Issues to Address

The Forest Service should include the Lake Elsinore Advanced Pump Storage (LEAPS) and Talega-Escondido/Valley-Serrano 500 kV Interconnect Projects into the US Department of Agriculture/US Forest Service planning, policy, and environmental review documents. (PC 553)

Individual projects including the LEAPS proposal were considered in all alternatives and identified as compatible or non-compatible based on the management emphasis and subsequent zoning for each alternative. Please refer to the FEIS, Chapter 3, for the discussions addressing the compatibility of the proposals in each alternative. The DEIS is not a decision document nor will the Final Environmental Impact Statement and revised forest plan make decisions for the designation of land based on any project level proposals.

The Forest Service should address the issue of inventorying roadless areas greater than 1,000 acres. (PC 901)

Inventoried Roadless Areas mapped during the RARE II process were published in the National Roadless Conservation Environmental Impact Statement. In addition, areas greater than or equal to 1,000 acres adjacent to existing Wilderness areas were considered in Wilderness evaluations when recommended by public and internal scoping. This inventory has been updated as a result of the selected Alternative 4a. (See Part 2 of each forest plan, Special Designation Overlay section). See PC 3519 (Roadless Areas) for more information.

The Forest Service should address state ambient air quality standards. (PC 903)

We have added the State Ambient Air Quality Standard attainment status to the Air Resource Section of the FEIS.

The Forest Service should address if there are vehicle clean-up requirements to mitigate invasive species contamination. (PC 904)

In the selected alternative, vehicle washing to prevent spread of invasive species is not a requirement during all activities. It is Forest Service policy (see Forest Service Manual, Noxious Weed Management 2080) to require checking for invasive species on contracted equipment used for timber treatments prior to equipment entering the project area and washing of the vehicles if weeds are present. So in this instance, it is required. It can also be added to other contracts where equipment is utilized. The southern California national forests recognize the benefit of washing and have included it as a strategy in the Noxious Weed Strategy for the four southern California national forests located in the FEIS. National Forest managers utilize every opportunity to recommend washing; however, the systems are not in place

to do it on a large scale. We anticipate this will become a strategy that will be implemented at an increased level once systems are in place that make it easier to implement and to dispose of the waste.

The Forest Service should address noise confines along all OHV trails in the Final Plan. (PC 905)

For each event or new project planned, noise is one of the factors analyzed. This is completed at the project, site specific scale where the most important information can become part of decisions made. This project specific type of analysis is not part of this planning process. Noise factors and consequences are discussed in Chapter 3 of the FEIS, in the Recreation section under Direct and Indirect Effects. Noise and possible conflicts is a consequence under each of the alternatives.

The Forest Service should receive support from the Governor and all members of Congress whose districts are directly impacted when recommending Wilderness. (PC 2173)

Wilderness recommendations made in the selected alternative of the forest plan are preliminary administrative recommendations that will receive further review and possible modification by the Chief of the Forest Service, Secretary of Agriculture, and the President of the United States. The Congress has reserved the authority to make final decisions on wilderness designation.

The Forest Service should include a discussion of federal General Conformity requirements in the Final Plan. (PC 5033)

A discussion of general conformity requirements of the Clean Air Act has been added to both the forest plans (Part 2, Appendix B, Strategy Air 2) and the FEIS, Chapter 3 Affected Environment, Air.

The Forest Service should include a more complete discussion of the impacts of smoke from prescribed fires on public health in the Final Plan. (PC 5034)

Additional information on the human health effects of smoke from wildland fires has added to the FEIS, Chapter 3, Environmental Consequences, Effects on Air Quality section.

Adequacy of Analysis

The Forest Service should inform the public about previous wilderness evaluation and designation, about the impacts of recommended special designations on recreational access, and about which roads are needed for community protection from fire. (PC 71)

Roads and fire suppression access are analyzed for each alternative in the FEIS, Chapter 3, Roads and Wildland Fire and Community Protection sections. Note that Alternative 6 was revised to retain administrative access. The Land Use Zone section in Part 2 of the forest plan now defines a Back Country Motorized Use Restricted (BCMUR) zone that is used in Alternative 4a to allow for administrative road access and facilitate forest health projects and fire suppression, while limiting public motorized access. The section also clarifies that Back Country Non-Motorized (BCNM) zoning allows for administrative access by exception for emergency situations and for short duration for management purposes (e.g., fuels treatments). In addition, roads analysis process (RAP) information may be found in the "Reading Room" on our web site and CD. The RAP includes identifying which roads are important for administrative access and which are in an environmentally sensitive location in order to help prioritize future work.

The decision to designate wilderness is made by Congress, not the Forest Service. The Wilderness section in Chapter 3 of the FEIS reviews existing southern California national forest wilderness and the enabling legislation is listed in Appendix A of the forest plan. See the response to PC 2163 and PC 3519 (Roadless Areas) for information on the process used to evaluate roadless areas.

The suitability of recreation uses in recommended wilderness zoning is described in the Suitable Use Tables in Part 2 of each forest plan, while analysis of the effects of wilderness designation on recreation is described in Chapter 3. In the FEIS, the Recreation section has clarified the effects of special designations

on recreation access. Recommended wild and scenic river designations do not affect existing recreation access although future road development may be affected.

The Forest Service should ensure that the EIS concisely explains the methods and results of analyses and provides detailed descriptions of anticipated resource impacts by alternative, in particular the effects of roads, OHV and other motorized use on species and their habitat and what would be a reasonable upper limit for OHV route mileage. (PC 82)

The thirty-two tables in the Road Analysis relate to roads and the environmental risk assessment of roads described in the Affected Environment and Environmental Consequences were based upon the data and mapping developed during the roads analysis process (RAP). The RAP analyzed National Forest System roads, those under jurisdiction and maintenance by the Forest Service. The RAP helped to analyze alternatives, and was used to inform the decisions made in the forest plans. A relative level of development of new OHV routes is included in Chapter 2 of the FEIS for each alternative. The effects of motorized use on species is addressed in Chapter 3 of the FEIS in the Effects on Biological Diversity section.

The Forest Service should consider the following hydrology, geology or energy-related concerns with the environmental analysis: 1) environmental documents cannot be incorporated by reference into the plan revision DEIS without an appropriate hydrogeological analysis; 2) the DEIS fails to adequately analyze impacts from oil and gas exploration and extraction including the LPNF strategy related to leasing; and 3) the DEIS fails to adequately address the human environment related to energy development needs including the consequences of precluding potential hydropower facility project(s) on NFS lands through land use and related policies. (PC 156)

Several comments related to hydrology reports are outside the scope of the forest plan revision. There is no requirement for hydrology studies to be prepared by certified hydrologists for forest plan revision. Likewise, there is no requirement by the USDA-Forest Service for licensed hydro-geologists to be used for forest plan revision. However, the interdisciplinary team did include both professional geologists and hydrologists, at the local Forest level and Regional State level, working through all phases of the planning process, including consultation with professionals at the State level. A list of preparers is included in Chapter 4 of the FEIS. Any incorporated-by-reference environmental document that did not include a hydrology report did not need a certified engineer's stamp. Finally, the comment about updating a final EIS is out of scope as the document under review was a Draft EIS.

As discussed in detail in the response to PC 911 (Alternative Development and Range), the Forest Service developed a broad range of reasonable alternatives in the draft and final EIS to address the issues, including energy development. The revised forest plan is a strategic document that provides guidance for the development of project proposals including energy development. See the response to PC 3671 (Energy and Utilities) for more focus on specific proposals on the Cleveland National Forest. Individual proposals such as the Lake Elsinore Advances Pumped Storage venture were recognized as expected future demand in all alternatives and identified as compatible or non-compatible based on the zoning for each alternative. In most land use zones, renewable resource utilization is a suitable use or may be suitable by exception. We believe that the zoning and policy in the selected Alternative 4a support the vision and goals of the forest plan and meet the intent of NEPA regarding balance between population and resource use. Reasons for selection are detailed in the Records of Decision.

We understand that the Los Padres National Forest Oil and Gas EIS was not included with the forest plan revision DEIS for review; however, it has been out for public review during the spring of 2002, for 90 days, and is now final. We have incorporated a brief description of the Oil and Gas FEIS decision in Chapter 1 of the southern California forest plan revision FEIS. The purpose of the forest plan revision FEIS is not to analyze specific impacts; that is done during project level work. Discussion on the impacts from mining to other resources is found in Chapter 3 in the FEIS organized under the section of the resource being affected. Management direction found in various standards in Part 3 of the forest plan and

in 36 CFR 228a and 261 and Forest Service Manual 2880 provides policy and guidance for analysis of impacts from mining and oil and gas leasing.

The FEIS also addresses the effects of Oil and Gas development within the descriptions for those other resources, as appropriate. The decision made in the Oil and Gas FEIS for the Los Padres National Forest, makes portions of the Sespe, San Cayetano, and South Cuyama High Oil and Gas Potential Areas (HOGPAs) available for oil and gas leasing, and authorizes the Bureau of Land Management (BLM) to lease certain lands in these HOGPAs in accordance with identified stipulations. The remainder of the HOGPAs studied and the non-HOGPA area would not be available for leasing. Of the 52,000 acres that are available for leasing in the three HOGPAs, 4,000 acres would be subject to development. The remaining 48,000 acres could be leased with a no surface occupancy stipulation. On the approximate 4,000 acres subject to development in the three HOGPAs, the reasonable foreseeable development scenario (RFD) projects the drilling of a potential 25 wells on five well pads along with the construction of one mile of new road and two miles of pipeline. These activities are expected to result in the initial disturbance of 20.5 acres of land, with 14.5 acres remaining developed after rehabilitation of construction activities. The RFD also projects the production of 17 million barrels of oil equivalent (BOE – a combination of crude oil and natural gas). This decision will amend and be incorporated by reference into the Los Padres National Forest's forest plan in accordance with regulations for oil and gas leasing found at 36 CFR 228, Subpart E – Oil and Gas Resources. Subsequently, the Regional Forester will authorize the BLM to offer specific National Forest System lands for lease.

The Forest Service should create text references and policy and plan support to allow for tiering later environmental documentation, prepared pursuant to the provisions of the National Environmental Policy Act and its associated guidelines, to programmatic analysis presented in the Revised Forest Plan Final Environmental Impact Statement (FEIS). (PC 161)

Any project-level environmental analysis subsequently performed to implement the forest plan may elect to tier to the FEIS prepared for the forest plan revision in order to incorporate by reference the general coverage of matters.

The Forest Service should require that an interdisciplinary team representing all appropriate specialties such as botany, soils, hydrology, fisheries and range perform the suitability analyses, and it should not be restricted to criteria provided in Appendix J. (PC 162)

Appendix J of the forest plan Part 3 has been modified to include the suggested wording. Under Step 2 the first paragraph includes: Assessment of suitability is conducted by an interdisciplinary team to address whether livestock grazing is compatible with other land uses; ecological, social, and economic considerations; and the ability to meet or move towards forest plan desired conditions. Under Step 2 Item 2: Capable lands may not be suitable in some areas depending on the overall evaluation of potential significant adverse effects and where efforts to mitigate adverse effects have been determined to be ineffective over the long-term based on site-specific information or analysis.

The Forest Service should consider including in Appendix B the intensity of damage caused by different activities. (PC 163)

Intensity of effects is discussed in Chapter 3 of the FEIS.

The Forest Service should collect and clearly report all relevant information and data, analyze all alternatives without bias, and support reasoning in the DEIS, particularly in regards to air quality. They should also consider that faults in analysis derive from incompatible forest management goals. (PC 164)

The goals in Part 1 of the forest plans are based on national Forest Service goals. For that reason, we do not agree that the forest plan goals are incompatible. One of the greatest challenges in developing a forest plan is achieving a balance of management actions and desired outcomes which is responsive to the many

varied and often times conflicting public demands. Each alternative represents a different balance of outcomes among sustainable ecosystems, recreational uses, and forest products. The selected alternative is most responsive to the balance between desired public outcomes and is consistent with the various laws governing the management of the national forests. We still find that there is a less than significant difference between alternatives with regard to affecting air quality. The two major sources of air pollution directly derived from activities controlled to some degree by the agency are vehicle and prescribed fire emissions. The largest difference between alternatives for vehicle use is found between Alternatives 6 and 4, a difference of about 160,000 miles driven per day within the national forests (see table 234: Estimated Daily Forest Visitor Mileage Driven Within The National Forests). This mileage difference is less than 0.5 percent of the total vehicle mileage driven within the surrounding Air Pollution Control Districts (APCDs), as noted in Chapter 3 of the DEIS, Effects on Air Quality.

For prescribed fire, the largest difference between PM-10 emissions occurs between Alternatives 1 through 5 and Alternative 6. PM-10 is the largest criteria pollutant in nonattainment status produced by prescribed fire. Annually about 1,000 tons of PM-10 is the estimated difference in emissions between these alternatives (see table 102: Estimated Annual Wildland Fire Emissions -- tons/year). Comparing this 1,100 ton/year, to the total PM-10 load from the surrounding APCDs, of about 424,300 ton/yr indicates that the maximum prescribed fire PM-10 load is less than 0.5 percent of the total PM-10 load in the surrounding APCDs. Values of less than 1 percent should not be considered significant or substantial on a broad forest-wide landscape scale. For this reason, the statements in the DEIS that: "None of the alternatives considered would substantially change the existing air quality at the forestwide scale" and "The alternatives have few differences that would affect air quality" should not be considered misleading.

One of the many sources of fugitive dust on the national forests is caused by traffic on unpaved road surfaces. Fugitive dust is also created by vehicle traffic on paved road surfaces, where "track-out" of dust and mud on to the paved surface occurs as well as tire and brake wear. Wind erosion from unvegetated surfaces like mining stock piles, parking lots and recently burned areas are also sources of fugitive dust common throughout the national forests. A generalization of these and other fugitive dust factors was made in reaching the air quality comparison of alternatives found in table 233: General Comparison of Alternative Air Quality Emissions. We have added a clarifying legend to this table. The comparisons drawn in this table represent estimated differences between alternatives over broad geographic areas.

Motor vehicles represent one of the largest single sources of Hazardous Air Pollutants (HAPs) and ozone precursor emissions occurring within the national forests, see the EIS, Chapter 3, Affected Environment, Air. Within small areas of the national forests, unusually high numbers of vehicles and adverse meteorological conditions could lead to short duration situations of unhealthy local air quality conditions. Similar conditions could also be expected during wildland fire conditions. Ambient air quality in most of southern California does not meet National or State Ambient Air Quality Standards (non-attainment) and is generally considered, in certain locations like highly urbanized congested areas, to be unhealthful for sensitive individuals.

Off-highway vehicle (OHV) mileage estimates can be found in table 455: OHV Mileage by Forest and table 456: Miles of ML2 Roads Open to Highway Licensed Vehicle Use and the Mileage Managed as a 4WD Opportunity. Also see discussions found in the EIS, Chapter 3, Affected Environment, Motorized Trails: Off-Highway Vehicles section.

In the absence of mitigation measures, national forest management procedures have the potential to adversely impact local as well as regional air quality. This is particularly true of wildland fire management. The choice of mitigation measures and controls used to manage these situations are analyzed and decisions made at the project or wildfire incident level of planning and fall outside the scope of this document. Estimates of site-specific and local air quality conditions are best made at this project level of planning. A listing of proposed projects is available by contacting the national forest offices directly.

The Forest Service should reconsider its suggestion of full public access to a fragile environment with heritage resources. (PC 166)

The land use zoning in the area in question basically remained unchanged in Alternative 4a to reflect the pattern of private land ownership in the area, and to provide flexibility in community protection. The Cleveland National Forest will only provide motorized recreation opportunities in areas that are already designated, and on existing roads and trails already designated for that opportunity.

The Forest Service should include up-to-date information and statistics to insure an accurate assessment and Plan. (PC 167)

Due to the length of time it takes to update our inventories, most data sources are several years old. Our analysis was updated to use the 2000 census data, for example. Our adaptive approach to management envisions a process of keeping key data layers up-to-date and through our monitoring efforts we will determine how changes relate to the plan decisions and determine if there is a need for change. See Part 1 of the revised forest plans. Scientific studies are cited by author and date.

The Forest Service should consider that there are contradictions in their statement of goals for forest health and range allotments. (PC 171)

The forest plan revision (through a capability and suitability analysis) has determined which areas in the four southern California national forests are capable and suitable for livestock grazing (see FEIS, Chapter 3, Environmental Consequences, Effects on Livestock Grazing). In Part 3 of the forest plan in Appendix A, Federal Regulations, 36 CFR 219.3 directs the Forest Service to perform a capability and suitability analysis. The analysis as detailed in the FEIS Chapter 3 under the Effects of Livestock Grazing and tables 107: (Designated Grazing Areas Status, Acreages, and Permitted AUMS by Forest) and 108 (Grazing Suitability by Forest by Alternative) displays the results of this analysis. In Part 1 of the forest plan, the desired condition for livestock grazing states: "Livestock grazing opportunities are maintained commensurate with other resource values in designated livestock grazing areas." Vacant livestock grazing areas will not be closed in the revised forest plan. A site-specific analysis will be performed at a later time and full public input will be solicited. The goals and desired conditions are accomplished by the revised forest plan in full compliance with federal laws and national policy. The standards in guides in Part 3 of the forest plan provide for meeting or moving towards desired conditions and thus sustaining the health, diversity and productivity of the nation's forests and grasslands to meet needs of present and future generations. The statement "It would appear to me to accomplish part A's goals by implementing part B in Alternative 4 would not be possible" is unclear as to why this is contradicting based on the strategic nature of the forest plan and the 3 parts of the forest plan as described above.

The Forest Service should provide a mandatory directive and not discretionary guidance to stress that all areas of the forest should be analyzed for livestock grazing capability and suitability, not just areas of concern. (PC 172)

At the forest plan level, an adequate analysis was performed regarding the capability and suitability of livestock grazing areas (see FEIS, Chapter 3, Environmental Consequences, Effects on Livestock Grazing). All areas of the national forests were analyzed and are summarized in FEIS table 107: Designated Grazing Areas Status, Acreages, and Permitted AUMS by Forest for capability and table 108: Grazing Suitability by Forest by Alternative for suitability. In Part 3 of the forest plan, standard S51 directs an "Allotment specific review of rangeland capability and suitability guidelines (Appendix J, Livestock Capability and Suitability Guidelines) shall occur as part of a site-specific allotment or livestock grazing area level National Environmental Policy Act (NEPA) analysis. Permits will not be issued for allotments determined to be not suitable or have insufficient grazing areas for sustaining a livestock operation." Actual site-specific analysis would identify the condition of the range and all other resource areas such as riparian and other sensitive areas. The forest plan is strategic in nature and not site-specific.

The Forest Service should consider utilizing the research and planning found in the Sierra Nevada Ecosystem Project. (PC 182)

An assessment similar to that done for the Sierra Nevada Ecosystem Project, the Southern California Mountains and Foothills Assessment: Habitat and Species Conservation Issues (John Stephenson and Gena Calcarone, 1999, General Technical Report PSW-GTR-172; USDA Forest Service, Pacific Southwest Research Station, Albany, CA) provided information that highlighted the need to revise the southern California national forest management plans in order to better protect imperiled species, rare habitats, and overall biodiversity. The report contains much valuable baseline information on conditions within the southern California national forests. This publication is available online through the Pacific Southwest Research Station at: www.fs.fed.us/psw/publications/documents/gtr-172/.

The Forest Service should develop a valid list of indicator species, to include why the species was selected, its historical population and condition, and the criteria to scientifically define reasons for changes that may or may not occur over time because there is a question of the validity of the current list of indicator species and its effectiveness to the Forest Service in managing resources. (PC 1117)

Appendix B of the FEIS (Management Indicator Species Selection Process) includes a more detailed description of the process used to select MIS and provides a rationale for the selection of each MIS. This appendix has been revised to include information on how MIS monitoring will occur and how the information generated from this monitoring will be used to answer management questions.

The Forest Service should consider that the Draft EIS overstates benefits and understates risks and costs of vegetation management. In addition, the risk of fire posed by OHV activities is understated while the benefit of being able to better meet recreation demand is overstated. (PC 3027)

The FEIS anticipates an increase in fire starts over the next planning period due to an expected increase in vehicular traffic on the State, County, and Forest Service road systems as a result of the increased volume of visitation (Wildland Fire and Community Protection, Recreation, and Transportation sections, FEIS). The respondent notes that off-highway vehicle (OHV) violations are the third highest type of violation that occurs and attempts to link these citations to increased fire risk. Fire statistics for the four southern California national forests do not support this contention. Please refer to PC 1705 (Motorized Recreation) for information regarding fire starts caused by OHV use. Recreation demand will increase over the planning period. The range of alternatives display the relative emphasis that would be placed on meeting that demand within the budgets and overall emphasis of each alternative. Alternative 4, places the most emphasis on meeting the demand for a wide range of recreation activities, from very dispersed to highly developed forms of recreation (see descriptions of alternatives, Chapter 2, FEIS).

The Forest Service should consider the absence of decent monitoring studies (Keeler-Wolf, Lead Vegetation Ecologist, CDFG, personal communication). (PC 3075)

Forest plans are based on currently available information. If lack of information leads to uncertainty then an adaptive approach to management may be recommended.

Use of Science; Best Available Science

The Forest Service should be more precise in its language regarding "biodiversity hotspots." (PC 117)

We agree with the commentors that the term "biodiversity hotspot" was used casually and somewhat inconsistently in the draft revised forest plans, without definition of what the term means or reference to supporting scientific literature. This has been corrected. The term "biodiversity hotspot" was applied to the California floristic province -- essentially most of the state outside of the deserts -- by Myers and others in a peer-reviewed article in the journal Nature in 2000 (see FEIS, Chapter 3). Details on how Myers and others determined what areas to call hotspots can be found in their publication (full citation

information is found in Appendix K. Bibliography). Information on the 25 worldwide biodiversity hotspots can be found on the website of Conservation International at [www. conservati on. org/xp/CI WEB/strategi es/hotspots/hotspots. xml](http://www.conservati on. org/xp/CI WEB/strategi es/hotspots/hotspots. xml) . Forest plan references to "biodiversity hotspot" now make it clear that the term refers to the list maintained by Conservation International, and that the southern California national forests are part of the California biodiversity hotspot (see Part 1). In some locations, other language explaining that the mountains and foothills of southern California contain a wide range of species and habitats, including unique species and ecosystems found only here and a large number of threatened and endangered species, has been used.

The commentors also address management of endangered species. The Forest Service, like all federal agencies, has a positive obligation to carry out "programs for the conservation of endangered species and threatened species" under Section 7(a)(1) of the Endangered Species Act, and must ensure that its actions are "not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species" under Section 7(a)(2). The list of species considered to be threatened or endangered is determined by the U.S. Fish and Wildlife Service and National Marine Fisheries Service (NOAA Fisheries).

The Forest Service should ensure that the DEIS not make statements that influence the outcomes of each alternative without proper evidence from the scientific literature. (PC 125)

The section on the effects of motor vehicle based access has been revised in the FEIS. In Chapter 3 of the FEIS, we have distinguished between chronic impacts to vegetation and the effects of fragmentation on wildlife, and we have more clearly described the effects of each alternative, including Alternative 6, in respect to impacts to wildlife from motor vehicle based recreation.

The Forest Service should address the lack of cited scientific studies footnoted or referred to in the DEIS. (PC 141)

There are 26 pages of cited references listed at the end of the DEIS (Appendix K, Bibliography). More citations (approximately 50 pages) of scientific literature have been added in the FEIS in response to public comments and the Science Consistency Review (see Appendix Q, Science Consistency Review report). Many references are cited in the affected environment sections of the FEIS; discussions in the environmental consequences sections tend to focus more on analysis of internal data compiled for the planning effort and contain fewer references. The species accounts (supplementary material, found in the Reading Room) contain numerous references - these are included with each species account, not listed in Appendix K of the FEIS.

The Forest Service should utilize expertise specific to the location. (PC 154)

The Forest Service used in-service employees to design and analyze the alternatives. Please see List of Preparers in Chapter 4 of the FEIS.

The Forest Service should utilize research efforts of those outside the Forest Service on issues of biodiversity and sustainability to provide current resource data, monitoring, and research information in a timely manner. (PC 157)

The Forest Service routinely uses data from outside sources, in addition to those collected internally, when analyzing projects. Information from many sources was used to develop and analyze the revised forest plans. A science consistency review of the forest plans, DEIS, and supporting documents was conducted by a team of independent scientists (who were not involved in the development of the documents (see Appendix Q, Science Consistency Review of the FEIS, for a list of the review team scientists). More expert advice was submitted as part of the public comment process. The bibliography of the FEIS (Appendix K, Bibliography) lists the sources of information used in the analysis of the forest plan alternatives.

The Forest Service should clarify in the Draft EIS the issues surrounding grazing to make them conjectural and not supported by scientific or factual evidence until such time as comprehensive, peer-reviewed studies can be completed. (PC 625)

The FEIS is based on science and professional experience. The FEIS analyzed the capability and suitability of livestock grazing areas at the forest plan level and no active areas were found to be unsuitable. Several vacant areas were recommended for closure; however, these areas will not be closed until a site-specific NEPA analysis is completed with public input. The FEIS analyzed the effects of each alternative that is supported by science. To make the issues surrounding grazing conjectural and not supported by science would violate the National Environmental Policy Act.

Natural Resources

Multiple Designations and Other

The San Bernardino National Forest should not establish areas as Special Interest Areas or Research Natural Areas including Black Mountain and Hall Canyon. (PC 2393)

Black Mountain Scenic Area was designated in the original forest plan, approved in 1989. Hall Canyon Research Natural Area was established in January 1990. No alternative in the forest plan revision proposes removal of any existing special interest area or research natural area.

The Forest Service should consider adding a Special Interest (sic) overlay for areas containing proposed wilderness areas currently under consideration by the federal legislature. (PC 5031)

Although the legislative actions regarding wilderness are actions outside the scope of the forest plan revisions, most of those areas are included under one or more of the alternatives being considered. The areas in each alternative that the Forest Service would recommend to Congress for wilderness designation are allocated to the Recommended Wilderness land use zone.

Special interest areas (SIAs) are areas of the national forest managed to protect or enhance unique characteristics in a very focused location. They can be established to protect and manage threatened, endangered and sensitive species or other elements of biological diversity, or heritage resources. They could be located within wilderness or recommended wilderness or any land use zone. Normally, this designation would not be used to identify wilderness characteristics but would be more focused in the special interest.

The Forest Service should explain how opening up roadless areas to off-highway vehicles will impact the eligibility of Wild and Scenic River segments. (PC 2117)

Chapter 2. Alternatives, Including the Proposed Action in the FEIS describes the range of alternatives analyzed for management of off-highway vehicles (OHVs) and for inventoried roadless areas. If an area is not recommended for wilderness designation, it would be allocated to one of the other available land use zones. See Appendix D. Inventoried Roadless Areas (IRAs) in the FEIS for analysis of how each alternative allocates the inventoried roadless area acreage. Chapter 3 describes the environmental consequences of alternative OHV management strategies on various resources (FEIS, Chapter 3, under the section the resource being affected).

Off-highway vehicle use in wild and scenic river segments will be regulated according to land use zone and river classification. Vehicles are required to stay on designated roads, trails or areas in all land use zones. Per the revised forest plan, eligible wild and scenic rivers (or segments) will be managed to perpetuate their free-flowing condition and preliminary classifications (wild, scenic or recreational), and to protect and enhance their outstandingly remarkable values through the suitability study period until designated or released from consideration (see Part 2, Special Designation Overlays; and Part 3, Standard S59). A scenic classification could allow for limited crossings by OHVs. A recreation classification could

allow for OHV use within the river corridor as long as the outstandingly remarkable values and water quality are protected or enhanced.

The San Bernardino National Forest should maintain Bear Creek as a wildlife sanctuary and an environmentally sensitive area, so long as it does not preclude use by hikers and anglers on foot. (PC 2122)

Bear Creek within the San Bernardino National Forest is an eligible wild and scenic river in the selected alternative. Hikers and anglers will continue to have foot access.

The Forest Service should explain what it is doing to protect wilderness areas and Wild and Scenic Rivers from harmful development. (PC 2125)

Existing wilderness and eligible/designated wild and scenic rivers are managed according to legislation and Forest Service manual and handbook direction. Some degree of development is allowed within each designation, depending on the circumstances.

The San Bernardino National Forest should align Research Natural Areas and wilderness areas in a way that preserves existing trails including in Holcomb Valley. (PC 2152)

Holcomb Valley is located within the San Bernardino National Forest. No wilderness designations are recommended in Holcomb Valley in the selected alternative. Arrastre Flat Research Natural Area (RNA) is recommended for designation. Dispersed non-motorized recreation (including hiking and equestrian use) is not incompatible with the RNA designation. Access on National Forest System roads will be also be retained.

The Forest Service should inform the public on the impacts that proposed designations will have on recreational access. (PC 2412)

The Forest Service has informed the public through the forest plan revision process about the potential impacts that proposed special land use designations may have on recreational access. The effects of special designations on recreation are discussed in Chapter 3, Effects on Recreation. The effects of special designations on motorized public access are discussed in Chapter 3, Effects on Motorized Trails and Effects on Roads.

The Forest Service should inform the public whether, in proposing Research Natural Areas and Special Interest Areas, appropriate analysis was conducted to examine the potential and current uses of the area under different management scenarios and what values would be maintained and forgone if they are designated. (PC 2431)

The process used to evaluate and designate research natural areas is described in the FEIS, Appendix F. Research Natural Areas. The process used to evaluate and designate SIAs is described in the FEIS, Appendix G. Special Interest Areas. Analysis in these two sections is appropriate to examine current and potential uses in the areas evaluated.

The Angeles National Forest should protect areas with either wilderness designation, Critical Biological zoning, or a Special Interest Area designation including Castaic Mountain, Magic Mountain, Santa Clarita Canyons and Condor Peak. (PC 2429)

Please see the response to PC 2179 (Wilderness) regarding wilderness and the response to PC 2102 (Special Interest Areas) regarding special interest areas designated. Critical Biological zones in the selected alternative are listed in the table in Part 2 of the forest plan, Land Use Zones, Critical Biological. Special designations and Critical Biological zones are only some of the means that are used to protect resources. Refer to the Suitable Uses tables in Part 2, Land Use Zones, to see which uses are allowed in or restricted from each land use.

The Forest Service should consider the impact that assigning Wilderness, Wild and Scenic Rivers, and Back Country Non-Motorized zones will have on its ability to comply with the Healthy Forests Initiative and State and National Fire Plans. (PC 2425)

The Forest Service Manual 2354.42 contains direction for fire management activities within Wild and Scenic River corridors. Fire within a designated river area is to be managed in a manner compatible with contiguous National Forest System lands. Suppression activities should minimize the lasting impact on the river and river area. Pre-suppression and prevention activities should reflect the management objectives for the specific river segment. Prescribed fire may be utilized to maintain environmental conditions or to meet objectives specified in the river management plan. Wild and scenic river designation will not hinder compliance with the Healthy Forest Initiative, State Fire Management Plan, or the National Fire Plan.

Wilderness designation has similar guidelines for the Healthy Forest Initiative. There may be some increased cost for the planning and execution of projects, but managers will be able to manage for healthy forests in these areas. Strategy SD-1 in Part 2 of the revised plan allows prescribed burning in wilderness to maintain wilderness values or to enhance community protection. Tree thinning as provided for in the Healthy Forest Initiative is not allowed in wilderness areas but is recommended in all other land use zones.

The Cleveland National Forest should recommend areas for special land designations and more protective zoning, as shown in Alternatives 3 and 6; < and >

The Cleveland National Forest should not recommend areas for special land designations. (PC 2061)

Please see the response to PC 2179 (Wilderness) regarding wilderness recommendations made on the Cleveland National Forest as well as the zoning of those areas not recommended for wilderness.

Based on public comment, nearly all of the non-motorized areas recommended in Alternative 3 have been incorporated into the revised forest plan. In addition, Back Country Non-Motorized zoning and Back Country Motorized Use Restricted (BCMUR) zoning have been assigned to areas that were not displayed as non-motorized in Alternative 3, including the Black Canyon area (San Dieguito/Black Mountain Place). The BCMUR zoning allows for administrative and other authorized motorized access. Management intent is to improve or maintain watershed protection on the Cleveland National Forest through this zoning as well as the application of Program Strategies and Standards contained in Part 2 and Part 3 of the final revised forest plan.

Portions of the areas displayed as recommended wilderness in Alternative 6 have been recommended for wilderness designation. Most of those areas not recommended for wilderness have been assigned Back Country Non-Motorized zoning. A small proportion of the acreage displayed as non-motorized or recommended wilderness in Alternative 6 has been zoned Back Country Motorized Use Restricted to allow for community defense and vegetation management, non-motorized public access or motorized (administrative) access to private land or permitted uses.

The Eagle Peak area has been zoned for Back Country Non-Motorized use. This is a continuation of existing management policy for the area. This zoning is intended to allow for a full range of management activities that may be necessary to maintain the unique resource values that characterize this area, including water resources/quality, aesthetic values, and archaeological sites.

The Cedar Creek area has also been zoned for Back Country Non-Motorized use. This zoning represents additional protection for the upper San Diego River watershed and associated natural and cultural resources.

The San Mateo Canyon Wilderness expansion area displayed in Alternative 3 has been zoned for motorized administrative access.

See the response to PC 2322 (Wild and Scenic Rivers, Cleveland National Forest) regarding wild and scenic river eligibility on the Cleveland National Forest, and how rivers not found eligible are treated in the revised forest plan.

See the response to 2396 (Research Natural Areas) regarding RNA proposals in this round of planning.

The Barker Valley area and associated values are already appropriately protected through special interest area designation; the West Fork San Luis Rey River Special Interest Area was established in 1986 to protect wild trout fisheries. The Guatay Mountain area (Sweetwater Place) and associated values are already appropriately protected through special interest area designation; the Guatay Mountain Special Interest Area was established in 1986 to protect the Tecate cypress. Unique wildlife values in Laguna Meadows area (Laguna Place) are already protected through ongoing, site-specific management and mitigation (such as avoidance, enclosures, and interpretation) according to the terms and conditions of the existing Biological Opinion. The Chiquito Springs area (Chiquito Basin) has been evaluated and recommended for special interest area status. Management intent is to continue to supply opportunities for environmentally sustainable trail-based recreation on existing system trails within this area. This administrative designation will have no effect on existing access and recreation activities in the area.

The southern California national forests should establish habitat sanctuary preserves for all threatened, endangered, proposed and sensitive species. (PC 2024)

There are a variety of ways to provide the protection you are interested in. In some cases, the biological values in certain locations are so important that Critical Biological zones have been created. These are the areas that are most critical to the survival of the species. In other cases, protection has been provided by other land use zones such as Recommended Wilderness, Back Country Non-Motorized, or Back Country Motorized Use Restricted. Special designations such as recommended wild and scenic rivers, special interest areas and research natural areas have also been used to provide protection of certain values. In some cases, no special zoning or designations have been made for a species occurrence, but the Fish and Wildlife and Riparian Standards in Part 3 of the forest plan should provide the protection you are seeking.

The San Bernardino National Forest should recommend areas for special land designations including Children's Forest and all proposed Special Interest Areas, all Research Natural Areas; all Wild and Scenic Rivers; and recommended wilderness for all inventoried roadless areas; < and >

The San Bernardino National Forest should not recommend areas for special land designations. (PC 2026)

The San Bernardino National Forest found the following rivers (or segments thereof) eligible for inclusion into the National Wild and Scenic Rivers System: Bautista Creek; Bear Creek; Fish Creek; Full Mill Creek; Holcomb Creek; Lytle Creek--Middle Fork; Palm Canyon; San Jacinto River--North Fork; Santa Ana River; Santa Ana River--South Fork; Siberia Creek; Whitewater River--East Fork of South Fork; and Deep Creek. See the response to PC 2284 (Wild and Scenic Rivers) regarding the process used to inventory the rivers. Recommendations to Congress will not occur until suitability studies are completed.

Recommendations for wilderness are discussed in the response to PC 2179 (Wilderness).

We agree that the Children's Forest is a unique place. Special interest areas (SIAs) designated in the San Bernardino National Forest revised forest plan include Children's Forest, San Andreas and Arrastre Creek. These areas, along with the existing North Baldwin Lake - Holcomb Valley and Black Mountain, best meet the intent of SIA management. Special interest areas are designated to protect and manage for public use and enjoyment those places with scenic, geological, botanical, zoological, paleontological, archaeological, or other special characteristics or unique values. An SIA designation does not encumber lands or empower a selected few. They do not affect wildland fire suppression or deplete groundwater.

Please see the process used to evaluate and designate SIAs in the FEIS, Appendix G. Special Interest Areas.

Recommended research natural areas include: Arrastre Flat, Blackhawk, Broom Flat, Cleghorn Canyon, and Wildhorse Meadow. These areas are listed in the forest plan, Part 2, Land Use Zones or Special Designation Overlays section.

Part 2 of the forest plans has expanded the Land Use Zone section to better describe the zones. (Critical Biological and Back Country Non-Motorized are land use zones, not special area designations.) The map accompanying each revised forest plan displays the land use zoning.

The Forest Service should recommend special area designations for ecological function and recreation management, including providing the total area north and south of the Sierra Madre Ridge Road with Wilderness and heritage protection; the Indians area as either Research Natural Area or Special Interest Area; the limber pine forest atop Mt. Baden-Powell as a Special Interest Area; and Pleasant View area as Wilderness. (PC 2067)

Throughout the FEIS, special area designations including wilderness, wild and scenic rivers (WSRs), research natural areas (RNAs), and special interest areas (SIAs) were considered and effects analyzed. The trend of increased listing of threatened, endangered and sensitive species and the consequences of management actions on these species was identified as an issue in formulating the alternatives analyzed in the FEIS (Chapter 1, Issues). The range of alternatives considered and trends relative to effects are described in Chapter 2 of the FEIS, while Chapter 3 describes in further depth the effects of implementation of the alternatives. The theme of Alternative 6 "is to protect and restore biological diversity and ecological function and to mitigate existing impacts from all uses on National Forest System lands" (FEIS, pg 2-10). As a result, Alternative 6 recommends most inventoried roadless areas be recommended for wilderness; recommends all eligible WSRs and the greatest mileage of wild river for inclusion in the WSR system; and the greatest number of RNAs and SIAs.

Areas recommended for wilderness designation in the Record of Decision will be managed to maintain their existing wilderness character and potential for inclusion into the National Wilderness Preservation System until Congressional action on the recommendations on the Wilderness Study Area.

The revised forest plan provides management direction to protect the free-flowing character, potential classification, and outstandingly remarkable values of wild and scenic eligible rivers until a suitability study is completed and final recommendation to Congress regarding river designation is made.

A number of new special designations were added to the final selected alternative from the draft preferred alternative for all national forests to meet many of these concerns. See final forest plan, Part 2, Land Use Zones and Special Designation Overlays.

On the Los Padres National Forest, the south side of the Sierra Madre Ridge Road is protected by the existing San Rafael Wilderness for most of its length. The alternatives presented in Chapter 2 of the DEIS present a broad range of management strategies for this area. Alternative 6 proposes either wilderness or Back Country Non-Motorized land use zones along the entire length of the Sierra Madre Ridge Road. The Milpitas area (Indians area) has been designated as a special interest area.

On the Angeles National Forest, Mt. Baden-Powell is already a designated special interest area (see Part 2, Angeles Plan, Special Designation Overlays). Pleasant View area is predominately (93 percent) zoned as Back Country Non-Motorized in the selected alternative, with minor amounts of Critical Biological, Back Country and Developed Area Interface zoning.

The Forest Service should recommend or consider recommending areas for Wilderness and/or Wild and Scenic Rivers designation. (PC 2075)

See response to PC 2179 regarding wilderness recommendations and PC 2284 regarding wild and scenic river study process and recommendations. See Appendix D. Inventoried Roadless Areas (IRAs) of the

FEIS for additional information about Inventoried Roadless Areas. See Appendix E. Wild and Scenic Rivers of the FEIS for additional information about the wild and scenic river study and recommendation process.

Much of Deep Creek within the San Bernardino National Forest has been found to be eligible for wild and scenic river designation. The Cahuilla, South Fork and Sugarloaf roadless areas were not recommended for wilderness designation. The Sheep Mountain and Raywood Flat roadless areas were recommended for wilderness designation.

The San Luis Rey River (Main), San Mateo Creek and Devil Canyon, and Upper Cottonwood Creek within the Cleveland National Forest have been determined to be eligible for wild and scenic river status. Until a suitability analysis has been completed, the unique wildlife values (San Luis Rey River), steelhead trout and botanic values (San Mateo/Devil Canyon) and heritage values (upper Cottonwood Creek) will be preserved. Eligibility analysis for the San Diego River has been completed and no outstandingly remarkable values have been identified. Therefore, the San Diego River is not recommended for further wild and scenic river analysis.

Portions of the South Hauser roadless area have been recommended for wilderness designation as an expansion of the existing wilderness. Most of the other recommended wilderness areas displayed in Alternative 3 and Alternative 6 of the draft plan have been zoned in the final revised forest plan primarily as Back Country Non-Motorized use, including undeveloped and unroaded portions of Eagle Peak and other portions of the San Diego River watershed, Ladd Canyon, Coldwater Canyon, and Barker Valley. Management intent for these areas is to protect resource values and maintain their natural, unroaded and undeveloped character. Back Country Non-Motorized zoning will allow for a full range of non-motorized management actions and continued non-motorized public access.

The Forest Service should consider the effects that proposed Research Natural Areas and Special Interest Areas will have on the ability to access the lands in question for recreation or fire suppression, including the proposed areas of Chiquito Springs (Cleveland) and Aliso-Arrastre (Angeles). (PC 2097)

Research natural areas (RNAs) are discussed in the FEIS, Appendix F. Research Natural Areas. An RNA is a physical or biological unit in which current natural conditions are maintained as much as possible. These conditions are ordinarily achieved by allowing natural physical and biological processes to prevail without human intervention. That means recreational use is not permitted if it threatens or interferes with the objectives or purposes for which the research natural area was established. Wildfires are extinguished as quickly as possible to minimize danger to RNAs using means that will cause minimal damage.

Special interest areas (SIAs) are discussed in the FEIS, Appendix G. Special Interest Areas. In contrast to RNAs, SIAs are specifically managed and marketed for recreation, visitor use, and education. Fire suppression efforts are not affected by this designation.

Chiquito Basin in the Cleveland National Forest and Aliso-Arrastre in the Angeles National Forest are both candidate SIAs that have been evaluated and are designated as SIAs in the revised Cleveland and Angeles National Forest Plans, respectively. On the Cleveland National Forest, the management intent is to continue to supply opportunities for environmentally sustainable trail-based recreation on existing system trails within the Chiquito Springs area. The SIA administrative designation will have no effect on existing access and recreation activities in the area.

Three RNAs are proposed in the Cleveland National Forest Plan; none are proposed on the Angeles National Forest.

The Forest Service must conduct adequate analyses before proposing designations of Research Natural Areas and Special Interest Areas including reviewing historical records to confirm soil disturbances. (PC 2110)

Evaluation of candidate research natural areas is discussed in the FEIS, Appendix F. Research Natural Areas. Evaluation of candidate special interest areas is discussed in the FEIS, Appendix G. Special Interest Areas. Soil disturbance was one of many factors analyzed.

The Angeles National Forest should consider the significant impact that special area designations have on public works facilities and maintenance of county roads. (PC 2058)

The revised forest plan establishes a new land use zone that allows for administrative access to such facilities. No existing facilities are within areas proposed for special designations that would preclude access to public works facilities or county roads.

Wildlife Structures (water-holding, barriers)

The Forest Service should address stream crossing and fish passage problems, as well as barriers to migration, as stated by the U.S. Fish and Wildlife Service including preferred crossings, designing new culverts and retrofitting or replacing existing culverts, post-construction evaluation, and long-term maintenance. (PC 1398)

Standard S22 requires that all new linear structures be designed to allow fish passage unless doing so would adversely affect federally-listed species, so no new barriers should be created under the revised forest plans. In Part 2 of the revised forest plans, Appendix B - Program Strategies and Tactics, WAT 1 contains direction to achieve and maintain connectivity of stream channels, which could include taking action through time to retrofit or replace existing culverts that act as barriers to fish movement. Strategy WAT 2 focuses the Forest Service to actively pursue water rights and water allocation processes to secure instream flows sufficient to sustain native riparian dependent resources and to monitor water development projects to ensure that instream flows are meeting riparian dependent resource needs. In Part 1 of the revised forest plans, Goal 5.2 Riparian Condition, the desired condition calls for watercourses that are functioning properly and support healthy populations of native riparian species.

Breeding Programs, Stocking, Reintroductions

The Forest Service should coordinate with California Department of Fish and Game regarding fish stocking and non-native fisheries to resolve conflicts with all threatened, endangered, protected, candidate and sensitive species and habitats. (PC 1100)

Please see the San Bernardino National Forest's final forest plan, Part 2, Appendix B, Strategy WL 1 for rewording that refers to coordinating on both fish stocking and nonnative fisheries management.

The Forest Service should consider not restocking streams and lakes with non-native fish. (PC 1110)

Please see the fish, frog and toad species accounts found in the Reading Room on the forest plan revision website or CD. Working closely with California Department of Fish and Game is listed as a conservation opportunity for most, if not all, of them. In addition, please see Part 2 of the forest plan regarding strategies to work closely with State and federal species management agencies regarding fish stocking where there are impacts to species-at-risk.

The Forest Service should clarify the annual needs of acreages for vegetation treatment with respect to backlogged projects. (PC 1192)

You bring up an important point. We now display the total acreage of treatments needed in the Wildland/Urban Interface (WUI) in table 534: (Average Annual Hazardous Fuels Program FEIS Forest Health and Vegetation Management section) as well as the annual program of work by each national forest.

The Forest Service should protect watershed resources by prescribing intense restoration efforts while minimizing further degradation of water sources. (PC 1007)

Beginning with the agency's Organic Administration Act (1897), the founding document of the USDA Forest Service, the agency's focus has been on protecting and maintaining high quality and dependable water flows from National Forest System lands. Water yields from forested lands have always been important to people. Natural groundwater replenishment, storage and surface water runoff and timing can be affected by subtle changes in climate and forest management. We have described the anticipated effects of all the alternatives on watershed resources in the FEIS, Chapter 3, under the Watershed section. Direction and guidance for watershed maintenance, improvement and restoration projects can be found in Parts 1 through 3 of the revised forest plans and in the 2500 series of the Forest Service Manual, Watershed and Air Management. Particular attention is paid in this manual to watershed recovery following wildfire, Chapter 2523 Emergency Stabilization - Burned-Area Emergency Response (BAER). During restoration and watershed maintenance project implementation, water quality is protected through the use of State approved Best Management Practices (see Part 2 of the revised forest plans).

The Forest Service should adopt a management plan that prevents watershed degradation, a goal of the Reservation. (PC 1002)

The Reservation's watershed protection goals match well with ours. This agency has a long history of watershed protection and improvement (see response to comment 1007 (Water and Watershed Management)). The watershed strategies and tactics described in the revised forest plans, Appendix B, as WAT 1 and WAT 2 further describe how we intend to protect and manage national forest watersheds and riparian areas.

The Forest Service should recognize and consider the continued need to utilize the San Jacinto watershed as a critical water supply source and how the revised forest plan may impact the comprehensive water rights settlement that has been reached. (PC 1006)

We do not anticipate any substantive change occurring in the manner in which the Forest Service will treat the San Jacinto watershed following adoption of the revised forest plan that would affect these agreements.

The Forest Service should incorporate the recommendations of the U.S. Fish and Wildlife Service in 2001 to maintain and restore habitat and connectivity between populations of the Santa Ana sucker. (PC 1011)

See the strategies and both program and Place-based emphasis areas for the next three to five years in Part 2 of the revised forest plan for the Angeles National Forest. Specifically, see Strategy - ME 1 in Appendix B that states, "Work with California Department of Fish and Game to prohibit suction dredging to protect threatened, endangered, proposed, and candidate species." Also refer to the San Gabriel River Place description for additional, specific program emphasis for the San Gabriel River.

The Forest Service should consider providing migration opportunities for native fish from watersheds to the Pacific Ocean to prevent further downward trends in steelhead population and provide for recovery of the Southern California and South-Central California Coast steelhead ESUs. (PC 1043)

Based on public comments, the Place descriptions for Figueroa-Santa Ynez and Highway 33 Places in the Los Padres National Forest's revised forest plan, Part 2, have been edited to include information regarding collaborative efforts to restore fish passage upstream of Bradbury and Matilija Dams. Also, please see the FEIS, Chapter 3, Affected Environment, Watershed and Biological Diversity, for mention of the effect dams and diversions have had on steelhead trout distribution and access to historical habitat. Also, please see the species account in the Reading Room and on the CD.

The Forest Service should specify how water will be acquired for livestock and wildlife watering and where it will take place. (PC 1045)

Wherever possible, the national forests will improve watershed condition and riparian habitats through their ongoing watershed improvement and restoration programs. General direction and guidance for watershed and stream channel improvement and restoration projects are found in Parts 1 through 3 of the forest plan and Chapter 2520 of the Forest Service Manual, Watershed and Air Management. Watershed and water source improvement projects can be developed, where appropriate, and can accommodate livestock and wildlife; however, addressing site-specific projects is beyond the scope of this strategic forest planning effort.

The Forest Service should coordinate the protection of the headwaters for a vernal pool complex in the Cruzan Mesa area when authorizing recreational activities in the watershed. (PC 1054)

The Cruzan Mesa Vernal Pools significant Ecological Area you mention lies just south of the Angeles National Forest (Santa Clara Mojaves River Ranger District) border, in an unincorporated portion of Los Angeles County. For watershed management direction on National Forest System lands just north of this location, please see Goal 5.2 (Riparian Condition) in Part 1 of the forest plans. Water and riparian Standards S44, S45, S46, S47, and S48, and those that are specifically designed to mitigate effects of recreation use, such as S35, S36, and S50, are found in Part 3 of the forest plans. Watershed management emphasis is also found in Part 2 of each forest plan. See Strategies WAT 1 (Watershed Function), WAT 2 (Water Management), WAT 3 (Hazardous Materials), REC 3 (Recreation Participation), REC 4 (Conservation Education) and REC 5 (Recreation Special Use Authorizations) found in Part 2, Appendix B.

The Forest Service should consider that changes in forest composition are less dependent upon human collection of runoff than changes in annual rainfall. (PC 1204)

Your observations are noted. See Chapter 3 of the FEIS, Affected Environment, Watershed, for discussion related to this subject.

The Forest Service should address that all water bodies in the Forest are on the Clean Water Act Section 303(d) list and compliance with respective Total Maximum Daily Loads (TMDLs) for various constituents and the development of new TMDLs. (PC 1399)

The Forest Service carries out its agreement to compliance responsibilities for the listed TMDLs it has authority to control. One of the watershed strategies and tactics listed in the revised forest plans (Appendix B, WAT 2) addresses 303(d) waters. The Forest Service works with the state of California and others to develop new and meaningful TMDLs for wildland waters.

The Forest Service should specify the impacts to the watershed region of the forests from the past, present and future development adjacent to the park's boundaries. (PC 1405)

A description of the past and present condition of the lands immediately adjacent to the national forest boundaries can be found in the Affected Environment descriptions in Chapter 3 of the FEIS and "setting" sections of each national forest's Place descriptions, Part 2 of the revised forest plans. The effects on watershed characteristics from the seven alternatives are described in the FEIS, Chapter 3, Environmental Consequences, Effects on Watershed Effects on Watershed Conditions. Within the scope of this planning document it would not be useful to attempt to discuss or analyze the future plans of the individual property owners and or planning organization adjacent to the national forest boundaries. The issue of continued growth on lands outside the jurisdiction of the Forest Service falls outside the scope of this document. The national forests provide comment on the impacts to National Forest System lands and work with the adjacent landowners and various planning organizations on projects occurring adjacent to their boundaries. Private and non-forest project development is highly volatile and dependent on economic factors that are outside the scope of this planning document as well.

Dams and River or Stream Flow

The Forest Service should acknowledge misappropriation of water and its negative impacts on spawning activity and habitats in Piru Creek. (PC 1074)

The effects of the various alternatives on watershed resources are described in the FEIS, Chapter 3, Effects on Watershed Conditions. The agency is bound by law and its own policies and direction, see Forest Service Manual, Chapter 2540 (Water Uses and Development), to always consider existing water uses and water rights in its planning efforts. Misuse or misappropriation of water is normally a determination reached by the State Department of Water Resources. The revised forest plans are expected to have no effect on existing agreements. All existing agreements, contracts, claims, water rights or permits are valid and are expected to continue. We will continue to work with water users and water rights holders to provide them the opportunity to exercise their rights in a manner that meets our riparian and streamside habitat policy and direction as described in Part 1 through Part 3 of the revised forest plans.

The Forest Service should clarify that the evaluations of dam removal consider impacts to public health, safety and water supply and whether the benefits of removal outweigh the impacts. In addition, instream flow recommendations should be subject to existing water rights and consent of the water right holders. (PC 1077)

The effects of the various alternatives on watershed resources are described in the Effects on Watershed Conditions section of the FEIS. The agency is bound by law and its own policies and direction, see Forest Service Manual, Chapter 2540 (Water Uses and Development), to always consider existing water uses and water rights in its planning efforts. The revised forest plans are expected to have no effect on existing agreements, including water rights. All existing agreements, contracts, claims, or permits are valid and are expected to continue. Dam removal and changes in operating conditions fall outside the limited scope of this planning document.

The Forest Service should discuss the potential impacts from instream flow recommendations including those that would provide streamflows above those naturally occurring in the water courses during the late season. (PC 1080)

The revised forest plans are expected to have no effect on existing agreements. All valid existing agreements, contracts, claims, water rights or permits are expected to continue. Long-term increases in water yield from these forest watersheds are considered unlikely. Watershed Strategy and Tactic WAT 1 (described in the revised forest plans) provide an outline of the national forest's approach to maintaining watershed functionality. Your concerns can best be included and analyzed at the project level of planning and fall outside the scope of this document.

The Forest Service should consider that capturing water in reservoirs and releasing it to water rights holders downstream does not have significant adverse impacts on groundwater levels in the forest. (PC 1081)

We concur that reservoir water levels can have an effect on local groundwater tables, but they may not be significant in all cases. The FEIS, Affected Environment, Watershed Condition section reflects this fact.

The Forest Service should reconsider their assertions that dams and reservoirs reduce the capability of habitats to support native species, based on observations of sensitive species more often below the dams instead of in water courses with no controls. (PC 1087)

The section Effects of Mineral and Energy, and Non-Recreation Special-Use Management on Biodiversity in Chapter 3 of the FEIS now includes a discussion about the beneficial effects that may result from managed flow releases from dams when they augment late summer and fall streamflows and actually serve to provide cool water habitat later into the year than would naturally occur.

The Forest Service should consider not releasing water from the Big Bear dam to maintain creek flow during drought conditions based on Wild and Scenic River eligibility. (PC 1091)

Bear Creek runs year-round, with specific minimum flows (sufficient to protect stream outstandingly remarkable values) maintained by the Big Bear Municipal Water District (MWD), which owns and operates Big Bear Lake. This requirement is mandated under Order 95-4 from the State Water Resources Control Board. Section 13 (b) of the Wild and Scenic Rivers Act states that jurisdiction over waters is determined by established principles of law. Existing, valid water rights are not affected by designation. The Forest Service has not in the past nor does it propose in the future to direct MWD to release additional flows into Bear Creek based upon Wild and Scenic River eligibility.

The Forest Service should consider impacts of more than 5000 dams in California on riparian dependent threatened and endangered species as failure to do so disallows the reference to the Sierra Nevada Conservation Framework EIS. (PC 1412)

Some comments appear to regard analysis and incorporation of documents into the Sierra Nevada Conservation Framework (SNCF) EIS and are not relevant to this forest plan revision effort. The SNCF environmental analysis is not incorporated into the southern California national forests' FEIS. Furthermore, concerns about the site specific effects of individual facilities can best be analyzed and included at the project level of planning. For these reasons, these issues fall outside the scope of this document.

However, we will clarify how the concern about fisheries and dams was addressed in the southern California forest planning effort. Please see the Environmental Consequences section of the FEIS, Chapter 3, Effects on Watershed Conditions and Effects on Biological Diversity. In addition, please see aquatic species accounts found in the Reading Room and FEIS, Appendix B, General Direct and Indirect Effects to Plants and Animals for a discussion about the impacts of dams on aquatic and riparian dependent resources. Please also see the response to PC 1087 in this section.

The San Bernardino National Forest should leave the dam in Sugarloaf Pond, which is within the Sugarloaf Inventoried Roadless Area. (PC 2172)

The San Bernardino National Forest does not intend to remove the Sugarloaf Pond dam. Nor does the presence of this dam preclude the evaluation of the Sugarloaf Inventoried Roadless Area for consideration as a potential wilderness. The Sugarloaf Inventoried Roadless Area was not recommended for wilderness designation in the selected alternative (Alternative 4a) of the revised forest plan.

Buffers, Riparian, Wetlands

The Forest Service should clarify the distance of a buffer area for riparian zones under management guidelines for Caltrans impacts to areas along SR-74. (PC 575)

Please see the response to public comment 1060 in this section. In addition, coordination with Caltrans regarding roadwork and/or potential impacts along SR-74 will be handled at the site-specific project level. Please see the Cleveland National Forest plan, Part 2, for the San Mateo Place description, desired conditions and emphases.

The Forest Service should properly manage riparian areas: reconsider the Riparian Conservation Area Five-Step Screening Process to determine buffer widths (Appendix E-3); require specific protective measures (including restoring vegetation structure, improving fish passage, removing non-native species) and appropriate stream buffers that are based on scientific data; consider upland habitat protection; and clearly specify what land use activities would be allowed at what levels within RCAs. In addition, analysis should provide sufficient information about the extent of RCAs and the expected impact by alternative. (PC 1063)

Riparian Conservation Areas (RCAs) would be implemented during project level planning as a "special consideration area" adjacent to water features. RCA delineations not only include all riparian vegetation,

but also provide for consideration for the steepness of the adjacent slopes, soil erodability and the potential for compaction. These are not intended to be "no management zones", but are being prescribed to recognize and protect riparian dependent resources across the southern California national forests. There are many authorized uses that have no substantial impact on riparian areas or associated species habitats.

Instead, we have used a combination of land use zone designations and forest plan goals, objectives, and standards as a strategy for providing for the protection of riparian areas and species habitat. Standard S47 found in the final forest plan, Part 3, and the associated Appendix E - Five Step Project Screening Process for Riparian Conservation Areas, were both developed to provide a consistent approach for project leaders to use in determining RCA widths when there is a need to conduct management activities near water bodies and riparian areas. In addition, new projects will be screened against desired conditions found in the forest plan, Part 1, to determine if the proposal is either neutral or will move the area towards the desired condition.

Regarding Riparian Conservation Areas (RCAs), the draft EIS and the final EIS actually define RCAs in Appendix E as follows: Perennial Streams =100 meters (328 ft) on each side of the stream, measured from the bank full edge of the stream, and Seasonally Flowing/Intermittent Streams = 30 meters (98 feet) on each side of the stream, measured from the bank full edge of the stream. These distances would be prescribed based upon the localized conditions and specific life stage requirements needed by a variety of different riparian-dependent species on the national forests. Specific information about life stage requirements for a number of different riparian species is described in the individual species accounts, which can be found in the Reading Room (see the species account for arroyo toads, as an example). When it is necessary to conduct activities within RCAs, low impact techniques described in Forest Service Handbook 2509.22 (Forest Supplement) would be considered and applied to minimize effects to the area. Standards S11, S15, S34, and S56 would also set sideboards for the management activities and help ensure the protection of riparian resources. Part 2 of the forest plans, Appendix B, Strategies WL1, WL2, IS1, WL4, WAT1 and WAT 2 describe the management emphases for each national forest over the next three to five years.

The Forest Service should not lessen riparian protection because water quality and quantity are of such concern in California. Because riparian mitigation done in recreational areas or off-road vehicle damaged areas diverts resources from habitat improvement projects. (PC 1058)

Based on public comments the selected alternative (Alternative 4a) more accurately reflects the management intent for the national forests over the life of the forest plan (10 to 15 years). As an example, many areas that were previously designated as Back Country Motorized (now called Back Country) have been adjusted to Back Country Motorized Use Restricted zoning. This land use zoning is used to restrict public motorized access to these areas while allowing for administrative access, as necessary, to manage the land and resources. In addition, more Critical Biological zones have been included in the selected alternative (Alternative 4a) based on public comments received. Please see the final forest plans, Part 2 for the Land Use Zone maps, area descriptions, and suitable uses. Through land use zoning changes such as these, many more areas of the national forests with sensitive resource values will receive protection from the effects of vehicular use and they are not expected to require increased expenditures.

In addition, the standards found in the final forest plan, Part 3, specifically standard S50 and Appendices D and E, are expected to result in managed, sustainable recreation as well as management of threatened, endangered and sensitive species across the national forests.

Recreation activities, as described in the DEIS and FEIS, Affected Environment, Public Values and Uses, and in the forest plan, Part 1, Management Challenges-Urbanization, are very wide ranging across the national forests and are expected to increase over the planning period. As described in Part 2 of each final forest plan, please see that we have emphasized the restoration of recreation use areas where the effects of

visitor use are causing resource problems. Also, please see a variety of different priority restoration opportunities for species habitat management.

The Forest Service should consider creating a no-treatment buffer zone along riparian areas. (PC 1060)

Riparian areas occur throughout all four southern California national forests, in all types of land use zones. There are many authorized uses that have no substantial impact on riparian areas or associated species habitats. We have used a combination of land use zoning and forest plan goals, objectives, and standards as a strategy for providing for the protection of riparian areas and species habitat. Standard S47 and Appendix E - Five Step Project Screening Process for Riparian Conservation Areas (RCAs), in particular, will be used during project planning to determine riparian conservation area (RCA) widths. In addition, new projects will be screened against desired conditions found in the forest plans, Part 1, to determine if the proposal is either neutral or will move the area closer towards the desired conditions.

The Forest Service should not overlook the value of the forest as a watershed resource to meet the demands of a growing population in the region; by managing land and vegetation in the mountain areas to maximize the recycling of nutrients supporting vegetation communities as well as capture and filtering of runoff, and by managing areas where natural hydrology has been altered to ensure transport of sediment and support of natural vegetation needs. (PC 1062)

The agency has a long history of watershed protection and improvement and seeks public input for its projects, reducing the likelihood of overlooking the potential of its watershed, see response to comment 1007 (Water and Watershed Management). The opportunities for changing water yields are limited in southern California. Changes in water storage capacity and flood control infrastructure proposals are best included and analyzed at the project level of planning and fall outside the scope of this document, as described in the Introduction section of Part 1 of the revised forest plan.

The Forest Service should identify the PAC Fish buffer widths in the EIS discussion of riparian buffers to clarify that larger buffers than those identified may be necessary along streams supporting anadromous salmonids. (PC 1064)

This suggested information has been added to the FEIS. Please see the final EIS, Chapter 3, Riparian Ecosystems, Riparian - Quantity.

The Forest Service should discuss the threat of invasive species in riparian and wetlands areas. (PC 1067)

Please see the final forest plan, Part 1, Goal 2.1 Invasive Species and Riparian Condition Strategic Goal 5.2 for mention of the invasive nonnative plant species that are causing major degradation of aquatic species habitat throughout southern California. Invasive species are also discussed in the resource management section in Part 2 of each forest plan, and also in Appendix B, IS 1 Invasive Species. In WL 1, invasive species are also included within each national forest's Conservation Strategy. In Part 3 of the forest plans, see Appendix M, the southern California national forest's Noxious Weed Strategy for a detailed list of strategies and program objectives described by the national forests.

The Forest Service should establish a timeline for restoration of riparian area seeps and springs. (PC 1068)

Please see Part 2 of the final revised forest plans to see the main conservation strategies to be emphasized over the next three to five years. The national forests currently have an active program of removal of invasive nonnative plant species in the highest priority areas and intend to maintain these efforts as well as other habitat restoration measures.

The Forest Service should address how trail maintenance and construction will be mitigated within the 100 foot boundaries imposed by the Riparian Conservation Areas. (PC 1070)

Trail maintenance will be managed the same as other recreation facilities. Appendix D, Adaptive Mitigation for Recreation Uses, in Part 3 of the forest plan describes the order of management actions to be taken to protect the sustainability of resource values throughout the national forest. These actions, as indicated in site specific analysis, apply to riparian areas where sustainability is at risk, even for trails maintenance projects.

The Angeles National Forest should protect Whitney, Elsmere, and Placerita Canyons as these riparian areas serve as habitat for sensitive and threatened species. (PC 2115)

In the selected Alternative 4a, the three areas you refer to -- Whitney, Elsmere, and Pacerita Canyon -- will generally remain zoned as Back Country Non-Motorized. However, one important change from Alternative 4, which was proposed in the draft EIS, is that the majority of the road system in the area, particularly in the southern and western areas of that portion of national forest that protrudes toward State Highway 5, will be zoned as Back Country Motorized Use Restricted. Examples of authorized use include: a special-use permittee requesting access to work on an apiary or communication site, Forest Service personnel doing work in the area, private contractors doing authorized work in the area, a land owner accessing private property, etc. The roads are gated and require that a key be issued to a person requesting motorized access to the area. Thus the motorized use in this area is controlled and confined to the existing road system. All other uses must be consistent with the suitable uses specified in the forest plan. With the land use zone designations that now apply to the area in question, we feel that the three areas you mention will be adequately protected.

The Forest Service should designate all aquatic and riparian communities as well as rare plant communities identified in Stephenson and Calcarone (1999) as Critical Biological Zones in addition to designation of Wild & Scenic River status. (PC 2378)

The process used to identify, evaluate and recommend candidate wild and scenic rivers for potential addition to the National Wild and Scenic Rivers System is found in Appendix E. Wild and Scenic Rivers of the FEIS. Additional direction is contained in the Wild and Scenic Rivers Act of 1968 (as amended) itself and in FSH 1909.12, Chapter 8 - Wild and Scenic River Evaluation. The criteria for wild, scenic and recreational classifications are found in Appendix E of the DEIS. Not all rivers can meet the criteria for "wild" river classification. Wild and scenic river designation does not offer full protection. Classification as a recreational river allows for significant levels of human activity.

The Critical Biological land use zone designation is designed to be used for the management of habitats necessary to meet recovery objectives for endangered, threatened, and proposed species. Not all aquatic and riparian habitats or rare plant communities are occupied by threatened, endangered, or proposed species. Many aquatic and riparian habitats that do provide suitable habitat for threatened, endangered, proposed, or sensitive species can be managed appropriately through the use of other land use zone designations and management strategies in Part 2 of the forest plans and through the use of design criteria as described in Part 3 of the final revised forest plans. As described in Chapter 3 of the FEIS, use of land use zone designations such as wilderness or Back Country Non-Motorized provides substantial protection for rare plant, aquatic, and riparian communities. Designation of riparian conservation areas and implementation of standards S45 - S50 provides substantial protection for aquatic and riparian habitats.

The Forest Service should follow the guidelines from the Department of Fish and Game, regarding prohibiting heavy equipment in streams, drainages, or riparian habitat and regarding trees not being skidded across these features. (PC 2514)

We cooperate with the California Department of Fish and Game on projects that involve streambed and riparian habitat alteration. We use the Best Management Practices (BMPs) as described in the Watershed

Section of Chapter 3 of the FEIS. Standard S47 (Five-Step Project Screening Process for Riparian Conservation Areas) coupled with the BMPs should achieve the results you are concerned about.

The diminishing aquatic, riparian and species habitat situation in southern California has been presented in the final EIS, Chapter 3, Affected Environment for Riparian Ecosystems and Biological Diversity, as well as in the final forest plan, Part 1, Vision. Also, please see the final EIS, Chapter 3, Affected Environment, Riparian Ecosystems and Riparian Quantity for more detail regarding acreages of Riparian Conservation Areas (RCAs) on the four southern California national forests, and Chapter 3, Environmental Consequences, Riparian Ecosystems and Biological Diversity for the potential effects to riparian areas under each alternative.

Special Area Designations

Special Interest Areas

The Forest Service should protect, enhance, and expand Special Interest Areas. (PC 2137)

The Forest Service protects and manages special interest areas. See FEIS, Appendix G, and Appendix A in Part 2 of the revised forest plan, for a full discussion.

The Forest Service should recommend areas for Special Interest Area designation to protect sites for traditional American Indian uses. (PC 2146)

The forest plan identifies the importance of areas of concern to the Tribal and Native American community as well as the need for responsive management of those areas. There is a marked increase of proposed special interest areas (SIAs) whose focus or significance is archaeological, cultural or Native American (approximately 20 percent of the proposed areas). Several of the proposed SIAs have botanical focus that include plants of cultural importance such as deergrass meadows, oak riparian and oak woodlands.

However, designations like SIAs carry specific requirements and expectations. The Forest Service encourages public use and enjoyment of the designated SIAs up to a level that will ensure protection of the special values for which the area was established. A SIA may not be the best tool to help preserve areas of streamsidess or meadows that will provide resources to meet the needs of generations of basketweavers. However, other tools, such as research natural areas, may not serve the needs of the American Indian community to access or utilize traditional use areas or protect sensitive areas. Research natural areas are set aside for research, education and the preservation of biodiversity, and provide for non-destructive research. The objective for special interest areas listed in the forest plan Part 2 (SD4: special interest areas) is to prepare management plans (that include appropriate protection measures commensurate to the expected public use), implementation schedules, and monitoring protocols for existing and newly designated SIAs. For those proposed SIAs with cultural or botanical importance to the Native American community, this would entail working cooperatively with the Native American groups to develop a management plan that would identify the appropriate management techniques to provide for the needs of traditional users such as basketweavers, if appropriate.

There may be other vehicles that are more appropriate to use to provide management of traditional forest resources to help ensure the survival of traditional cultural resources. It is the intent of Program Strategy and Tactics for Tribal Relations (Tribal 1: Traditional and Contemporary Uses) to protect, conserve, and restore traditionally or contemporarily used resources (cf. draft forest plan Part 2). It is felt that through consultation and collaboration with the Native American community, the appropriate vehicle, tailored for each situation, to accomplish the above goals, will be identified and the implementation planned.

The Angeles National Forest should provide more information about proposed Aliso-Arrastre Special Interest Areas regarding which Native American group the site is related to and how existing recreational uses will be affected. (PC 2147)

The management of other resource activities located within the Aliso-Arrastre Special Interest Area (AASIA) will be addressed through the management plan that will be developed. The Program Strategies and Tactics for special interest areas, found in Appendix B of Part 2 of the forest plan, states that the goal is to have this management plan completed within five years of the approval of the revised land management plan. The area of the AASIA was ascribed to the Tataviam group at the time of the European explorations in the area.

The Angeles National Forest should consider establishing a Special Interest Area between the South Coast Missing Linkage branches and areas of the Forest which are of Critical Biological importance or wilderness areas. Also, the Angeles National Forest should not designate areas within the Forest at the ends of the linkage branches as Back Country zones. (PC 2112)

Special interest area designation is primarily for providing recreational emphasis for areas of special geological, cultural, or biological values where interpretation and public use is encouraged. It is not clear that this designation would help meet your objective of maintaining the San Gabriel - Castaic Connection as described in the South Coast Missing Linkage Project. Soledad Canyon Critical Biological zone has been included in the selected alternative. Much of the Back Country zoning in the southern half of the Soledad Front Country Place has been zoned Back Country Non-Motorized in the selected alternative to better reflect management intent. Although most of the northern half of the Place has been zoned as Back Country, it is not the intent of the national forest to build a substantial amount of motorized routes. It was zoned as Back Country to provide the flexibility to make a few priority connectors for a logical motorized road and trail system. The amount of development planned should not substantially reduce the ability of the Place to provide for biological connectivity between the mountain ranges. We have added references to this important linkage in the Place Setting, Desired Condition and Program Emphasis to insure adequate consideration in future plans and projects.

The Forest Service should utilize Special Interest Areas to provide education to the public, where appropriate, in areas such as forest biology, geology, and climate change. (PC 2094)

Special interest areas are one of the ways that the national forests will provide education opportunities to the public. Conservation Education is an integral part of the Land Management Plan. Specific strategies include recreation strategy, REC 4, Conservation Education, to increase awareness, create advocacy and develop stewardship.

The San Bernardino National Forest should reconsider its proposal to establish heavily used areas as Special Interest Areas including Baldwin Lake and Holcomb Valley. (PC 2426)

The North Baldwin Lake and Holcomb Valley Special Interest Area (for botanical, zoological and historical resources) was established in the San Bernardino National Forest Land Management Plan of 1989. No established special interest areas are being terminated in the Forest Plan Revision in any alternative on any national forest.

The Los Padres National Forest should recommend designation of Special Interest Areas including the Sierra Madre Special Interest Area. (PC 2386)

Please see the forest plan for the Los Padres National Forest, Part 2, Special Designation Overlays, special interest areas for the list of designated SIAs on the national forest.

The San Bernardino National Forest should provide management plans for Special Interest Areas. (PC 2424)

Accomplishment of program strategy and tactics, including development of special interest area management plans, depends upon program emphasis objectives, national and regional direction, and available funding.

The Forest Service should establish Special Interest Areas and provide management direction for them, including for Deep Creek and the Children's Forest. (PC 2055)

We agree that the Children's Forest is a unique place, and have designated it as a national forest special interest area in the selected alternative. The process used to evaluate and designate SIAs is in the FEIS, Appendix G. Deep Creek is an eligible wild and scenic river and Critical Biological zone. Children's Forest already has a Strategic Plan. Updating this Plan and developing new Management Plans for existing and new SIAs will be accomplished as national forest priorities and funding allow.

The San Bernardino National Forest should revise its Special Interest Area designations to exclude any Southern California Edison hydroelectric facilities from any of the Santa Ana River and Mill Creek Canyon areas. (PC 2056)

The Santa Ana River within the San Bernardino National Forest has not been designated as a special interest area in the selected Alternative 4a. Mill Creek Canyon was not considered in any alternative as a candidate special interest area.

The Angeles National Forest should recommend or establish areas, including Aliso-Arrastre and Liebre Mountains, as Special Interest Areas. (PC 2102)

The selected alternative recommends designation of Liebre Mountain as a special interest area. This area is 9,521 acres in size. The selected alternative also recommends adding the "North" section recommended in Alternative 3 to the Aliso-Arrastre-Middle recommendation found in Alternative 4. This addition will add a total 1,210 acres to the designation for a total of 7,850 acres of special interest area.

The Forest Service should maintain the status of all established Special Interest Areas, including for nesting habitat. (PC 2060)

No zoning, boundary or status changes have been made to the established special interest areas on the Cleveland National Forest. Management intent is to continue to maintain important nesting habitats for plants and wildlife within the established SIAs.

Based on public comment, Ladd Canyon and Coldwater Canyon, and the Devil's Punchbowl area have been zoned for Back Country Non-Motorized Use. Through zoning, access in the Morrell Canyon area will be limited to non-motorized public access and motorized access for administrative use only.

The Forest Service should explain the criteria that it will use to evaluate impacts that public use will have on Special Interest Areas. (PC 2111)

The criteria used to evaluate candidate special interest areas is discussed in the FEIS, Appendix G. Narratives of specific SIAs are found in the Reading Room. Management plans will be written for each SIA after designation.

The Los Padres National Forest should explain how proposed Special Interest Areas will impact current land uses including the impact that the proposed Special Interest Area at the base of Cone Peak will have on access to private property there. (PC 2105)

Special interest areas provide an emphasis on public interpretation of the feature for which they are designated. Access is not affected by this designation. Access to private property is retained in all alternatives.

Research Natural Areas

The Forest Service should base current and future Research Natural Area (RNA) designations on documented Southern California community types as described in the Manual of California Vegetation, and the ongoing work by the Vegetation Program of CNPS in conjunction with the Department of Fish and Game, State of California to ensure that each vegetation type is represented as an RNA in the four Southern California National Forests. (PC 2394)

It is true that the Forest Service allocation of RNA targets by physiographic provinces in California has relied heavily, but not exclusively, on the selection of forested types identified by the Society of American Foresters. Trees are easy to identify and to inventory so forested types have been a natural focus of the program. Selecting an area based on a particular tree species (e.g., Coulter pine) or group of species (mixed conifer forests) inevitably means that other alliances listed in the Manual of California Vegetation (MCV) will be included in the RNA even if they were not the target vegetation types. Over time, the Forest Service will use the MCV to select RNAs. At this point, the list of alliances in the Manual is incomplete and more importantly, there are few maps that show the distributions of alliances on the national forests. In fact, shrub alliance maps are non-existent. As a result, it is difficult to compare shrubland areas and choose those that best represent alliances that would be suitable for RNA designation.

The Forest Service should establish Research Natural Areas. (PC 2396)

In the FEIS, see Appendix F, research natural areas (especially tables 318, 319 and 320) and Chapter 3, Vegetation and Forest Health, research natural areas.

The San Bernardino National Forest is recommending in the selected alternative establishment of research natural areas to help protect and research plants at Arrastre Flat, Blackhawk, Broom Flat, Cleghorn Canyon, and Wildhorse Meadow. Also, the area around the existing Cahuilla Mountain RNA has been zoned as Back Country Non-Motorized. Bautista Creek is designated a Critical Biological zone.

The Cleveland National Forest has decided not to recommend any research natural areas in the revised forest plan. However, three areas are proposed for evaluation in the next three years, and, if appropriate, will be recommended for establishment as research natural areas during the life of the forest plan. The three areas are Guatay Mountain (Tecate cypress), Viejas Mountain (Chamise), and San Diego River (Coastal sage scrub). Management intent is to maintain the unique resource values associated with these areas and allow for continuing activities such as community protection, vegetation management, recreation, and motorized access for administrative purposes.

On the Los Padres National Forest, proposed research natural areas include: Big Pine Mountain, Sawmill Mountain, White Mountain, Valley Oak and Ventana Cones. Big Pine Mountain RNA is in all the alternatives including the selected alternative.

Unfortunately, it is too late to address the Liebre Range, Big Rock Creek Area and Valley of the Moon areas on the Angeles National Forest in this forest plan revision. However, they can be nominated at any time. There is a series of steps through which a proposed area passes before becoming an RNA. The first step begins with a recommendation at the Ranger District level. The main difference is that each area will have to undergo separate NEPA analysis as opposed to being considered all together in the forest plan revision.

The Forest Service should revise its fire management policies in regard to Research Natural Areas; otherwise, RNAs will only serve as laboratories demonstrating the ultimate failure of long-term fire suppression. (PC 2398)

This comment is only partially true. Because the fire-return intervals in montane conifer forests have changed from short to excessively long, the composition, structure and function of the forests, including those in RNAs, would not be natural. Other vegetation types, however, generally are operating within the

historic range of variability in terms of fire regime. Furthermore, RNA status does not preclude the use of prescription fire if fire is required to perpetuate the vegetation types in the RNA.

The Cleveland National Forest should establish the Filaree Flat area as a Research Natural Area or a Special Interest Area. (PC 2400)

Filaree Flat was not included as a SIA in the revised forest plan as noted in Part 2, Special Designation Overlays. While this does mean that the area will not receive emphasis on interpretation of its resources, forest plan and other management direction is still in place to provide resources protection.

The San Bernardino National Forest should explain when, how, and why a Research Natural Area was proposed for the Middle Fork of Millard Canyon and explain restrictions on access to private property. (PC 2402)

The Millard Canyon Research Natural Area was established in 1991 to provide for the study of interior live oak, bigcone Douglas-fir and canyon live oak. This RNA is documented in San Bernardino National Forest's Plan of 1989 as the sixth area recommended for RNA designation. Please see pages 3-14 of the 1989 Plan. As noted in Part 2 of the forest plan, access is through the Morongo Indian Reservation. The issue of the road to private property having RS 2477 status or not is outside the scope of the forest plan; however, be assured that access to private property is not affected by the forest plan decision and is treated differently than general public access.

The Forest Service should not establish Research Natural Areas because they limit recreational use including OHV opportunities such as in Arrastre Flat on the San Bernardino National Forest. (PC 2403)

Recreational use is permitted in RNAs; however, it is not the primary emphasis in this designation. Existing OHV opportunities would be retained on 3N02 and 3N10 in all alternatives where this RNA is proposed. Dispersed recreation opportunities are retained in all areas of the RNA.

Roadless Areas

The Forest Service should recognize that unroaded areas offer prime habitat for condors reproducing in the wild. (PC 1808)

The EIS (table 370) and the species account for the Condor make it clear that the condor prefers remote areas for nesting and that these areas need to be maintained in their remote nature. Land use zoning in condor nesting areas has been designed to maintain remoteness in the selected alternative.

The Forest Service should recognize that Horse Creek Ridge Inventoried Roadless Area, San Bernardino National Forest is indicated on 2000 122FS Roadless Area Conservation EIS as Semi Primitive Motorized not Roded Natural. (PC 1896)

The San Bernardino National Forest's Plan signed November 1988 identified the ROS for the Horse Creek Ridge Inventoried Roadless area as RN Roded Natural. This ROS is in effect until the forest plan is revised, the current undertaking. The Roadless Area Conservation EIS issued in 2000 did not change the RN designation of the ROS.

The selected alternative (Alternative 4a) has zoned this area as follows: 8,959 acres original IRA, BCNM 6,891 acres, BCMUR 390 acres, and BC 1347 acres.

The Forest Service should keep roadless areas roadless but allow for mountain biking. (PC 2080)

The Final Environmental Impact Statement (FEIS) considers a range of alternatives for recommended wilderness and Back Country Non-Motorized land use zones. The process used to evaluate inventoried roadless areas for potential addition to the National Wilderness Preservation System is found in Appendix D of the FEIS. Roadless areas were evaluated and recommended for wilderness designation or another land use classification. See the response to PC 2179 regarding wilderness recommendations. Alternatives

3 and 6 recommend the most acres of these land use zones, Alternative 5 the least. These land use zones (along with existing wilderness) prohibit the use of motorized vehicles. Mountain bikes are not permitted within wilderness but are generally allowed elsewhere in the national forest, except along the Pacific Crest National Scenic Trail. Existing and recommended wilderness are not buffered; other land use zones may be adjacent to its boundaries. Site-specific decisions for system road decommissioning are outside of the scope of the forest plan, and will be made at the project level.

The San Bernardino National Forest should consider boundary adjustments to the Sheep Mountain Undeveloped Area and Horse Creek Ridge Inventoried Roadless Area. (PC 2161)

A portion of the Sheep Mountain Undeveloped Area has been recommended for wilderness designation in the selected alternative of the revised forest plan for the San Bernardino National Forest. National Forest System road 3N06 from Stockton Flat to Baldy Notch is retained and classified as a Back Country Motorized Use Restricted land use zone. The boundary is as shown on the map in the revised forest plan. This boundary reflects the decisionmaker's efforts to balance wilderness values with other resources and concerns. The recommended wilderness boundary is set back 200 feet from the center line of the Middle Fork Road, 2N58. The Middle Fork Trailhead remains outside of the recommended wilderness boundary. See also the response to PC 2052 regarding the Horse Creek Ridge Inventoried Roadless Area boundary.

The Forest Service should not expand Roadless Areas given Secretary Veneman's reissuance of the Interim Directive 1920-2001-1 (66 FR 65795) and that the Forest Service must first complete a required forest-scale roads analysis and prepare NEPA documentation thereupon. (PC 2163)

The process used to evaluate inventoried roadless areas for potential addition to the National Wilderness Preservation System is described in Appendix D of the FEIS. The National Roadless Area Conservation Rule does not preclude the Forest Service from the review of roadless areas or a recommendation for wilderness during the forest plan revision process. In fact, as outlined in Forest Service Handbook 1909.12.7, the Forest Service is required to review inventoried roadless areas during the forest plan revision process.

The Cleveland National Forest should explain to the public why it is unable to govern its lands and immediately implement actions to protect the Forest's Inventoried Roadless Areas (IRAs) because the Forest Service's claimed lack of control over the surface or subsurface of IRAs and unroaded areas has dire consequences for the Forest's IRAs and unroaded areas. (PC 2168)

The Forest Service manages inventoried roadless areas, along with the rest of the forest, to the fullest extent of its management authority. Subsurface mineral rights are withdrawn from wilderness areas upon their designation by Congress.

The San Bernardino National Forest needs to allow roads in its landscape plans for fire and fuels management. (PC 2170)

Access for fire and fuels management has been considered in the mapping of all land use zones. An additional zone, Back Country Motorized Use Restricted has been added to better address the need for administrative access for fire suppression and vegetation/fuels treatments.

The Los Padres National Forest should consider expanding sanctuary for TES species in the Sespe-Frazier (Ojai RD) Inventoried Roadless Area to allow for low impact recreation and to protect watershed. (PC 2249)

Chapter 2 of the DEIS describes the alternatives considered. Chapter 3 describes the environmental consequences of those alternatives. The decision maker considered the need for new wilderness along with a wide range of multiple use demands on National Forest System lands throughout southern California. The set of inventoried roadless area maps identified in the Forest Service Roadless Area Conservation Rule FEIS (November 2000) has been updated in our Geographic Information System data layers in accordance with final revised forest plan decisions to recommend wilderness designation to

Congress and allocate land use zoning. As site-specific projects are considered to implement the forest plan, any effects to the inventoried roadless areas will be acknowledged as a part of project-level NEPA analysis, which includes public involvement. Management intent is to maintain important resource values that characterize these areas, including aesthetic quality, air quality, biodiversity, botanic, wildlife habitat, soils, heritage, recreation and water resources (both quality and quantity). Throughout the various alternatives, Section 1 of the Sespe Frazier IRA lies within both motorized and non-motorized land use zones. Non-motorized land use zones maintain the unroaded, natural, undeveloped character of these areas while allowing for non-motorized public access, low-impact recreation activities and a full-range of non-motorized management actions, including community fire defense projects and mountain biking.

The Forest Service should proceed with forest management as if the Roadless Area Conservation Rule will be implemented. (PC 3519)

The Forest Service has developed the analysis based on current law, policy, and regulation. The revised forest plans comply with the current situation for inventoried roadless areas. Appendix D of the DEIS explains the process used to evaluate the inventoried roadless areas and undeveloped areas. Detailed wilderness evaluations are in the Reading Room. As explained in Chapter 3 of the DEIS in the trails sections, those alternatives (Alternatives 3 and 6) with the most recommended wilderness (RW) zone acreage would have the largest loss in mountain biking opportunities because the RW zone does not identify mechanized use as suitable (see the suitable use tables for public use and enjoyment in the forest plans). Size is but one of many factors considered in the wilderness evaluations. An area smaller than 5,000 acres may qualify if it is of sufficient size as to make practicable its preservation and use in an unimpaired condition. For example, many areas evaluated are adjacent to existing wilderness. Inventoried roadless areas that are not recommended for wilderness in a given alternative may be zoned in Back Country, (which is generally equivalent to semi-primitive motorized recreation opportunity spectrum) or Back Country Motorized Use Restricted or Back Country Non-Motorized (which are generally equivalent to semi-primitive non-motorized in the recreation opportunity spectrum).

The Forest Service should ensure that the final plans include a more in-depth discussion of roadless areas and provide a land use zone that protects roadless areas from road building and other development. (PC 3576)

Detailed wilderness evaluations of roadless areas are available in the "Reading Room" on our forest plan revision website and CD. The summarized findings are included in the DEIS and FEIS in Appendix D. Roadless areas not recommended to Congress for wilderness designation may be zoned in a land use zone in which road construction is not suitable or rarely suitable by exception. See Appendix D of the FEIS for an expanded discussion about how roadless area acreage was zoned in each alternative.

The Forest Service should keep roadless areas roadless, preserve current Back Country Non-Motorized areas, and add more wilderness areas to better protect all wildlife including endangered species such as Nelson bighorn sheep, mountain yellow-legged frog and the Santa Ana sucker. (PC 3608)

We have modified the land use zones to better reflect our management intent. Unless we had an identified need to have roaded access in the planning period and had some anticipation that roaded access would be created to meet management intent, we have left most of these areas in non-motorized land use zones. Where roaded access was needed for fuels management, forest health treatments or community protection, but public motorized access was not needed, we have made these Back Country Motorized Use Restricted. This should provide the same protection you are interested in. We have also increased recommended wilderness acreage in some areas for Nelson's bighorn sheep.

The Angeles National Forest should protect the Pleasant View and Castaic Roadless areas to help promote and protect the California condor by providing a good habitat base and by placing the area off-limits for hunting using lead bullets. (PC 3736)

In the selected alternative, the Pleasant View and Castaic (Tule, Salt, Fish Canyon, and Red Mountain) Roadless Areas are zoned predominately as Back Country Non-Motorized (BCNM), which should provide the needed protection for threatened and endangered species including condors there now or in the future. The management intent of the BCNM is to provide for no to low level of development. The condors themselves have made occasional visits to the east part of the Angeles National Forest, using the area along the ridgelines of the Transverse Range to access the updrafts for travel. The zoning of these areas as BCNM will help minimize potential conflicts for the condor.

The State controls hunting and weapons. However, the Forest Service uses conservation education to alert hunters in condor habitat to the issue.

Wilderness

The Forest Service should recommend designation of Wilderness areas; < and >

The Forest Service should not recommend designation of Wilderness areas. (PC 2179)

Chapter 3 of the FEIS describes in detail the anticipated environmental effects of implementing various management strategies. The specific effects related to wilderness are described in Chapter 3, in the Wilderness section. Wilderness is a unique and vital resource, a place where natural processes dominate. In addition to offering primitive recreation opportunities, it is valuable for its scientific and educational uses, as a benchmark for ecological studies, and for the preservation of historical and natural features. Land managers still have the ability to suppress wildfires with the use of motorized equipment and mechanical transport in wilderness if needed. In addition, prescribed fire may be used in wilderness if it meets wilderness fire management objectives (see strategy SD 1 in Part 2 of the forest plan).

The southern California national forests currently have 1,148,487 acres of wilderness or 32 percent of the total forest acres. Based on public comment from individuals, organized groups, and other government agencies, and review of the recommended wilderness evaluations approximately 86,857 acres of wilderness are being recommended in the selected alternative of the plan for the four southern California national forests. This represents a gain of 2 percent. The Angeles National Forest currently has 81,924 acres of wilderness or 12 percent of the total forest acres. Approximately 13,231 acres of wilderness are being recommended in the selected alternative of the forest plan for the Angeles National Forest. This represents a gain of 2.0 percent. The Cleveland National Forest currently has 75,523 acres of wilderness or 18 percent of the total forest acres. Approximately 11,377 acres of wilderness are being recommended in the selected alternative of the forest plan for the Cleveland National Forest. This represents a gain of 3 percent. The Los Padres National Forest currently has 860,678 acres of wilderness or 48 percent of the total forest acres. Approximately 35,821 acres of wilderness are being recommended in the selected alternative of the forest plan for the Los Padres National Forest. This represents a gain of 2 percent. The San Bernardino National Forest currently has 130,362 acres of wilderness or 20 percent of the total forest acres. Approximately 26,428 acres of wilderness are being recommended in the selected alternative of the forest plan for the San Bernardino National Forest. This represents a gain of 4 percent.

On the Cleveland National Forest, the recommended wildernesses are the Pine Creek Wilderness expansion area, and unroaded portions of the South Hauser Wilderness expansion area and Cutca Valley Inventoried Roadless Area because they help provide the mix of land use zoning that meet managements intent to provide for a mix of recreation settings. The areas that will be recommended to Congress for wilderness designation are listed in Part 2 of each revised forest plan under Land Use Zoning, Recommended Wilderness. These recommendations will have no effect on the amount of public land in southern California.

On the San Bernardino National Forest, the Experimental Forest, Sugarloaf and Granite Peaks Inventoried Roadless Areas are not recommended for wilderness designation in the selected alternative of the forest plan. Portions of other Inventoried Roadless Areas, including Pyramid Peak, Cactus Springs, Heartbreak Ridge, Raywood Flat, Cucamonga and Sheep Mountain Undeveloped Area are recommended for wilderness designation. No roadless areas were recommended for wilderness designation in the Big Bear Valley. Existing roaded access to private land in the Raywood Flat B Inventoried Roadless Area has not been curtailed by wilderness recommendations in the selected alternative. Nor have private land ownership rights anywhere in the national forests been diminished. Mountain biking will continue to be permitted on roads and trails in those areas not recommended for wilderness designation, including Sugarloaf Mountain.

On the Los Padres National Forest, recommendations for future wilderness were based upon the review of the wilderness evaluations and the theme of the selected alternative. Those existing wilderness areas that additions were of benefit to the wilderness values have been recommended as wilderness. The majority of inventoried roadless areas that were not recommended for wilderness in the selected alternative are zoned for BCNM or BCMUR to retain the natural character of the area while allowing for a full range of tools for activities like fuels treatment, fire suppression and trails management. Recommending wilderness to protect condor habitat was suggested. The recovery plan for the California condor does not recommend the designation of additional wilderness areas as a means of promoting the recovery of the species. The continued use of mechanized equipment is important to the recovery effort. Respondents included a number of reasons for recommending wilderness including protection of biological and physical natural resources while allowing for measures to control fire and pests. The Wilderness Act of 1964 (P.L. 88-577) does authorize specific activities that do not conform to the restrictions found in the Act, usually subject to regulation by the Secretary. In addition, many subsequent laws designating units of the National Wilderness Preservation System have authorized specific uses or activities that do not conform to the general prohibitions on the access and use of wilderness areas. Approval for nonconforming uses in non-emergency applications is subject to administrative review and approval. Existing uses, improvements, and authorizations would be analyzed following wilderness designation. The decision to allow the uses or improvements to continue would be based on site specific decisions and are outside the scope of the national forest planning process. Buckhorn Trail is not included in the Madulce-Buckhorn recommended wilderness.

Inventoried roadless areas (plus some other undeveloped areas) were evaluated for wilderness in this forest plan revision. The set of inventoried roadless area (IRA) maps identified in the Forest Service Roadless Area Conservation Rule FEIS, November 2000, has been updated in our Geographic Information System data layers in accordance with final revised forest plan decisions to recommend wilderness designation to Congress and allocate land use zoning. The IRA overlay update is described in the forest plan, Part 2, Special Designation Overlays. As site-specific projects are considered to implement the forest plan, any effects to the IRAs will be acknowledged as a part of project-level NEPA analysis, which includes public involvement.

The process used to evaluate inventoried roadless areas and other undeveloped areas for potential addition to the National Wilderness Preservation System is described in FEIS Appendix D. Inventoried Roadless Areas (IRAs). These roadless areas were evaluated and recommended for wilderness designation as per direction found in Forest Service Handbook 1909.12.7. Existing infrastructure is appropriately documented under availability. Roads and trails adjacent to roadless areas are evaluated on a case-by-case basis for their potential impacts to the manageability of a wilderness recommendation. A full description and analysis of all roadless areas is found in the Reading Room on the forest plan revision CD and on the national forests' websites.

The wilderness evaluation process included an analysis of possible wilderness boundary locations to ensure they avoid conflict with important existing or potential public uses outside the boundary that might result in demands to allow nonconforming structures and activities in the wilderness. The Cahuilla

Mountain Inventoried Roadless Area was not recommended for wilderness designation in the selected alternative of the revised forest plan. The wilderness evaluations include the impacts of nearby development. Minor intrusions of negative sights and sounds did not automatically rule a roadless area out of consideration for potential wilderness recommendations - it is one of a number of factors considered. See FEIS, Chapter 3, Air, for a discussion of air quality standards and wilderness.

The Forest Service recognizes the preservation of wilderness as an important component of an overall management strategy. A number of new areas recommended for wilderness designation were added to Alternative 4a (selected) as a result of further analysis and to meet public concerns. Refer to the land use zoning map in the revised forest plan.

The other roadless areas recommended as wilderness in Alternative 3 and Alternative 6 of the draft forest plan have been primarily classified as Back Country Non-Motorized or Back Country Motorized Use Restricted land use zones in the selected alternative of the revised forest plan. Both zones maintain the undeveloped character of these areas while allowing non-motorized public access (including mountain biking) and a full-range of management actions, including flexibility for fire prevention and fire suppression activities, forest health projects and the connectivity of ecological communities.

This is illustrated in the zoning combinations for each alternative. Management intent is to maintain the important resource values that characterize these areas, including aesthetic quality, air quality, biodiversity, botanic, wildlife habitat, soils, heritage, recreation, and water resources (both quality and quantity) over the planning period. The decision maker considered the need for new wilderness along with a wide range of multiple use demands on National Forest System lands throughout southern California.

The Forest Service should, based on the Wilderness Act of 1964, the Endangered American Wilderness Act of 1978, and the Colorado Wilderness Act of 1980, improve the methods it uses for wilderness analysis and abandon the Congressionally discarded "purity doctrine" with respect to an area's "sight and sounds" and "air quality." (PC 2158)

Part of the wilderness evaluation direction includes a determination of the degree to which the area offers visitors the opportunity to experience adventure, excitement, challenge, initiative, or self-reliance. Some southern California national forest roadless areas offer outstanding opportunities for adventure and challenge, others do not. In accordance with Section 7.21, the effects of sights and sounds outside the wilderness boundary relate to capability for wilderness designation and manageability 7.21(5). Minor, negative intrusions of sight, sound and air quality did not automatically rule a roadless area out of consideration as a recommended wilderness.

Many of the inventoried roadless areas and undeveloped areas in the national forests in southern California have low to moderate wilderness capability and availability because of manageability issues, boundary considerations, and existing constraints and encumbrances. The juxtaposition to densely populated urban centers has resulted in a high, increasing demand for nonconforming (motorized and mechanized) use, ongoing community fire protection needs, and the existing and escalating demand for urban infrastructure, impairing our ability to maintain the primitive and untrammelled conditions that are fundamental to wilderness. In accordance with Section 7.21(5.d), the wilderness evaluations include consideration of whether or not the "Boundaries, to the extent practicable, act as a shield to protect the wilderness environment inside the boundary from the sights and sounds of civilization outside the wilderness."

The Forest Service should improve the methods it uses to evaluate potential wilderness areas. (PC 2220)

The process used to evaluate inventoried roadless areas and other undeveloped areas for potential addition to the National Wilderness Preservation System is found in Appendix D of the FEIS. A full description and analysis of all roadless areas is found on the Southern California Forest Plan Revision "Reading

Room" website. These roadless areas were evaluated and recommended for wilderness designation as per direction found in Forest Service Handbook 1909.12.7. See the response to PC 2158 regarding consideration of sights and sounds in the evaluation. The decision maker considered the need for new wilderness along with a wide range of multiple use demands on National Forest System lands throughout southern California. Wilderness recommendation was not decided against based on lack of resources to enforce laws. Reference to potential loss of OHV access for neighboring property owners was deleted from an Angeles National Forest evaluation and not considered.

Roadless area narratives were reviewed between the draft to final plan based upon information received from the public and from staff within the agency. Factors outside the boundaries of roadless areas were not part of the evaluation process. Alternative 4a recommends additions to the existing wilderness areas in order to improve the wilderness network that represents the ecosystems of southern California and sustain the opportunities for manageability through boundary additions as well as improvements in providing opportunities for solitude and challenge.

The Forest Service should not allow wilderness areas to shut out existing special-uses, create conditions where an existing special-use cannot operate, or remove or diminish land rights within, and access to, existing utility corridors and/or easements. (PC 2302)

All National Forest System lands determined to meet wilderness capability requirements are generally available for consideration as wilderness. Refer to Forest Service Handbook 1909.12.7 and the discussion of Availability. However, the determination of availability is conditioned by the value of and need for the wilderness resource compared to the value of and need for other resources, including existing and potential special-uses. To be available for wilderness, the values of the wilderness resource (both tangible and intangible) should offset the value of resources that formal wilderness designation would forego. The predominant value does not necessarily reflect the use or combination of uses that would yield the greatest dollar return or the greatest unit output. In evaluating availability, each national forest described other resource demands and uses that the area under evaluation could satisfy. Included was all other resource potentials--pertinent quantitative and qualitative information including current use, outputs, trends, and potential future use, and outputs of the various resources involved.

Constraints and encumbrances on lands may also govern the availability of lands for wilderness. The national forest determined the degree of Forest Service control over the surface and subsurface of the area. The Forest Service should have sufficient control to prevent development of unresolvable, incompatible uses that would lessen wilderness character and potential. Current or planned uses of private land within the area should be compatible with wilderness management.

The effect that wilderness designation and management is likely to have on adjacent lands is also a necessary consideration in evaluating availability. The national forests determined the effect of such designation on transportation systems outside the wilderness and identified the requirements for wilderness access and traveler transfer facilities. Also determined was whether the costs and locations of required facilities would be compatible with other management needs.

The following are examples of lands that are generally best suited for development and intensive management for sustained yield production of resources other than wilderness. Depending on the seriousness of the resource needs, these lands may be considered unavailable for wilderness.

1. Areas where the need for increased water production and/or additional onsite storage is so vital that the installation or maintenance of improvements that would be incompatible with wilderness is an obvious and inevitable public necessity.
2. Highly mineralized areas that are of such strategic or economic importance and extent that restrictions or controls necessary to maintain the wilderness character of the land would not be in the public interest.

3. Lands committed through contractual agreements for use, purposes, or activities not in concert with the requirements of the Wilderness Act of 1964.

The Forest Service should ensure that its employees are familiar with the wilderness policies they are entrusted to follow and enforce. (PC 57)

Please see the response to PC 2220 regarding the process uniformly used by all four southern California national forests on the wilderness evaluations. National Forest management includes law and policy regarding wilderness (see Appendix A in Part 3 of the forest plan). This direction is extensive and we have attempted to avoid repeating it in the forest plan. Issues that are already decided by federal statute and national policy-- including use of motorized vehicles, mining, and livestock grazing in wilderness-- are outside the scope of the forest plan revision.

The Forest Service should make clear that they cannot designate wilderness areas in the Final Environmental Impact Statement. (PC 521)

New wilderness or additions to existing wilderness can only be designated by Congress. Based upon comments received, the statement in the DEIS has been clarified in the FEIS to read: "Designation of new wildernesses may occur as a result of this land management plan revision and future legislation."

The Forest Service should extend wilderness out to forest boundaries and externalize buffer zones outside of forest boundaries. (PC 2071)

Candidate wilderness area boundary locations were derived from inventoried roadless areas in the Forest Service Roadless Area Conservation FEIS of October 2003, public input during scoping and staff analysis. They do, in some cases, extend to the national forest boundary. Management of lands outside of national forest boundaries is not within Forest Service jurisdiction and outside the scope of the forest plan.

The Forest Service should only recommend areas for wilderness designation if the area contains "land untrammled by man." (PC 2188)

The Wilderness Act does not preclude recommending for designation areas that bear some impact by man. The Wilderness Act of 1964 states in Section 2 (c) that "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

All inventoried roadless areas and other undeveloped areas were evaluated by the Forest Service in this forest plan revision for their capability, availability and need. This analysis, along with public input sought during the scoping and Draft Plan periods, was used by the decision maker in determining wilderness recommendations that met the requirements of the Act in the selected alternative of the plan.

The Forest Service should incorporate the areas recommended for Wilderness in both Alternatives 3 and 6 in the final plan. (PC 926)

Alternatives 3 and 6 do target acquisition opportunities that provide habitat linkage, but so does Alternative 4a--see appendix I - Land Adjustment Prioritization Guide. In Chapter 3 of the FEIS, Biodiversity, the selected Alternative 4a incorporates some features from other alternatives and in the revised analysis compares consequences of each alternative.

The Forest Service should add more key indicators to be used for wilderness to ensure that existing and proposed wilderness areas are adequately monitored, evaluated, and protected for future generations. (PC 2433)

"Key Indicators" in the FEIS are measurable factors that indicate movement either towards or away from desired resource conditions over time. The key indicator for wilderness in Chapter 3 of the FEIS is the number of acres of designated wilderness. This indicator represents not only the size of the wilderness component within the national forests, but is also representative of other important aspects of wilderness management, including those related to habitat and recreation visitor use.

The Forest Service must include adequate protections for private, state, or locally owned property existing within or adjacent to recommended wilderness areas. (PC 2259)

The Forest Service has evaluated and included adequate protections for private land within or adjacent to recommended wilderness. Current and planned uses of private land within the area were analyzed for compatibility with wilderness management. The Wilderness Act of 1964 and Forest Service Manual direction provide land managers with tools to reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness as well as insects and disease control. This includes the use of motorized equipment and/or mechanical transport. Additional guidance could be provided by future legislative language for designation of the wilderness by Congress. Public participation and input regarding wilderness recommendations has occurred through the forest plan revision process.

The Forest Service should consider the public safety effects of wilderness designation regarding fire management and rescue operations. (PC 2256)

In the FEIS, Chapter 3, Wilderness, public safety and rescue is discussed. The Forest Service, on a case-by-case basis, may authorize motorized equipment and mechanical transport where there is a legitimate emergency involving human health and safety in wilderness. The same guide of emergency applies to the use of mechanical or motorized equipment in wilderness. Also see PC 2179 in this section.

The Forest Service should explain what steps it will take to mitigate, relocate, or otherwise accommodate any trailheads or roads that are located within the boundaries of proposed wilderness areas. (PC 2279)

No existing National Forest System roads or established trailheads were intentionally included within any roadless area recommended for wilderness in the selected alternative. If these improvements were included, it was by mapping error, which has been corrected in the FEIS and plan.

The Forest Service should not recommend wilderness areas that border on zones having substantial use. (PC 2264)

Roadless areas near places heavily used by man were evaluated for wilderness capability, including the environment. The Forest Service determined the degree to which an area appears to be natural and free from disturbance. Those areas near disturbing influences were rated lower than other areas with less disturbance.

The Forest Service should allow activities or uses up to the boundary of recommended wilderness areas. (PC 2267)

The Forest Service does allow activities or uses up to the boundary of recommended wilderness, consistent with land use zoning and other management direction.

Wilderness, Angeles National Forest

The Angeles National Forest should revise its description of the Fish Canyon Inventoried Roadless Area to include descriptions of unique landforms such as the red hewn cliffs of Redrock Mountain, the smooth, sculpted sandstone rocks found in the Cienaga and Redrock Creeks, and the narrow slot canyon found to the north of Cienaga Springs. (PC 2169)

You are correct in stating that the narrow slot canyon to the north on Cienaga Springs is a unique landform. Even though the lower 200 feet of this canyon is lined with concrete, we agree that this landform in Fish Canyon Inventoried Roadless Area is unique and have changed the analysis to reflect this. Although this change did not result in the area being recommended for wilderness designation in the selected alternative, we feel that the use of Back Country Non-Motorized zoning will preserve the primitive nature of the area.

The Angeles National Forest should recognize that the Wilderness Act of 1964 allows appropriate fire prevention/suppression activities in wilderness areas and not withhold recommendations for wilderness because of fire management concerns. (PC 2241)

Fire suppression, presuppression and hazardous fuels treatments may be conducted in designated wilderness to meet wilderness fire management objectives, particularly if provided for in wilderness legislation. Chapter 3 of the FEIS (Effects on Wildland Fire and Community Protection) describes the anticipated environmental effects of designated wilderness on fire management.

The Angeles National Forest should provide more discussion of wilderness qualities as well as proposed or designated critical habitat in the areas currently under consideration for wilderness designation. (PC 2247)

The process used to evaluate inventoried roadless areas for potential wilderness designation is described in FEIS Appendix D. Inventoried Roadless Areas (IRAs). A full description and analysis of all roadless areas is found in the Reading Room website and forest plan revision CD.

The Place descriptions contain enough information to get across a sense of Place and management emphases, including some aspects of wilderness qualities such as scenery. Recommended special designations including wilderness are listed, as are Critical Biological zones. A detailed description of wilderness qualities of the inventoried roadless areas (IRAs) is found in the wilderness evaluations, not in the narrative of the Place in which it is located. However, the description for the Angeles Front Country does note that five IRAs in the Place were evaluated. The forest planning process (and its evaluation of wilderness) is separate from any legislative action; hence, legislative proposals are not described in the forest plan.

The Angeles National Forest should consider in their wilderness evaluation of Fish Canyon Inventoried Roadless Area that the claim of considerable historical and active mining is hard to verify given recreation or 1987 forest plan maps, and that noted constraints and encumbrances could lie outside wilderness if Alternative 6 boundaries were used. (PC 3992)

Recreation maps are only one of many sources used to identify features that would add to or detract from an area's capability for wilderness designation. The Wilderness Act of 1964 (P.L. 88-577) does authorize specific activities that do not conform to the restrictions found in the Act, usually subject to regulation by the Secretary. In addition, many subsequent laws designating units of the National Wilderness Preservation System have authorized specific uses or activities that do not conform to the general prohibitions on the access and use of wilderness areas. Approval for nonconforming uses in non-emergency applications is often met with resistance from both internal and external sources. Therefore, the existence of nonconforming uses and the need to use motorized equipment for resource management in inventoried roadless areas is perceived as limiting the availability for wilderness designation. Fish Canyon Inventoried Roadless Area was/was not recommended for wilderness in the revised forest plan.

The Angeles National Forest should provide at least a 1/4 mile buffer/transition zone of Back Country Non-Motorized between the proposed Sheep Mountain Wilderness boundary in San Antonio Canyon and the Urban Rural Interface land use zone. (PC 2224)

The Angeles National Forest designated the quarter mile area between upper San Antonio Creek and westward to the Sheep Mountain recommended wilderness addition as Developed Area Interface. This land use zone allows for greater flexibility in regards to implementing fuels treatments and wildfire suppression. With numerous recreation residences, an organization camp, resort and campground located within a quarter mile east of upper San Antonio Creek, the national forest decided that this was the most appropriate designation for this area in terms of management flexibility relative to community protection.

The Angeles National Forest should consider adjusting the boundaries of its proposed Sheep Mountain wilderness areas to accommodate fire and fuels efforts and to protect corridor habitat for Nelson's bighorn sheep. (PC 2162)

The revised forest plan zones a quarter mile of the Developed Area Interface land use zone around the Burro Canyon Shooting Area and the communities along the San Gabriel River. The Developed Area Interface zone gives the Forest Service the ability to manage wildfire and fuels projects as well as wildlife habitat. Beyond that point, the zoning changes to the recommended wilderness zone (Sheep Mountain).

The Angeles National Forest should make provisions for any Forest Service roads, or existing public roads, within proposed wilderness areas that are required for administrative purposes, or zone these roads as Back Country. (PC 2285)

All National Forest System roads within or adjacent to recommended wilderness areas have been zoned either Developed Area Interface (East Fork Road) or Back Country Motorized Use Restricted. For the Sheep Mountain Addition, these include: Pigeon Ridge Road (2N15), Cabin Flat Road (3N39) and the Cattle Creek Road (2N09). For the Cucamonga A Addition, Mt. Baldy Road has been zoned Back Country Motorized Use Restricted from the road east to the wilderness boundary. All the above mentioned roads, except for East Fork Road, are available for motorized use for administrative purposes.

The Angeles National Forest should consider compliance with existing regulations in their wilderness evaluation of Red Mountain Inventoried Roadless Area rather than potential concern from adjacent landowners over the loss of use of motorized toys on the forest, particularly in an area where there are no trails or system roads. (PC 2287)

The statement that the commenter refers to, "Private property owners to the south along the proposed wilderness boundary near the San Francisquito Canyon Road may complain that they cannot use motorized "toys" on the Forest," has been deleted from the Red Mountain Inventoried Roadless Area evaluation.

The Angeles National Forest should consider in their wilderness evaluation of Red Mountain Inventoried Roadless Area that the area is not being visited by mountain bikes. (PC 2295)

Based on review of your concern, we changed the Red Mountain Inventoried Roadless Area evaluation in the following manner: from "Mountain biking use currently occurs in this area...." to "A minimal amount of mountain biking has occurred in this area in the past...."

The Angeles National Forest should consider in their wilderness evaluation of Fish Canyon Inventoried Roadless Area that by using Alternative 6 boundaries, current mining operations can be consistent with wilderness management, and that existing mining operations are allowable within wilderness areas. (PC 2305)

Both the Gillette (active) and the Maxwell (inactive) mines are located adjacent and outside of the Fish Canyon Inventoried Roadless Area (IRA). The boundaries of the IRA and the boundaries of the recommended wilderness (Santa Clara Canyons) in the area described in Alternative 6 are the same. Therefore, the boundary adjustment you suggest is, in fact, in place. Both mines are outside the

recommended wilderness boundary so mining activity would not be affected by wilderness designation. If the mines were inside a wilderness designation, mining activities would still continue because, by law, mining activities that pre-exist a wilderness designation are still allowed.

The Angeles National Forest should draw boundaries to keep popular bike trails out of wilderness areas. (PC 2298)

See PC 2179 (Wilderness). Forest Service Manual 2321 provides additional direction on establishing boundaries. Boundary locations should avoid conflict with important existing or potential public uses outside the boundary that might result in demands to allow nonconforming structures and activities in the wilderness. Existing mountain bike trails were considered in establishing boundaries.

The Angeles National Forest should not suggest that units "do not meet the 5,000 acre size recommendation in the Wilderness Act" because when considered together the additional units interface seamlessly with the existing Sheep Mountain Wilderness and would be managed as a whole. (PC 2253)

The statement that all recommended wilderness additions for the Sheep Mountain Wilderness "interface seamlessly with the existing Sheep Mountain Wilderness" is correct. Even though two components of the additions in the selected alternative do not individually meet the 5,000 acre standard, the Angeles National Forest is proposing that a combination of the addition proposals from Alternative 3 and 6 be brought forward as recommended wilderness. As a result, the selected alternative recommends more acres for wilderness designation than Alternatives 3 or 6 does alone or in combination for the Sheep Mountain Wilderness.

The Angeles National Forest should adjust the boundaries of the Tule Inventoried Roadless Area. (PC 2260)

The boundaries for the inventoried roadless areas (IRAs) were established using uniform criteria, but do not preclude the inclusion of all or part of each IRA as recommended wilderness. Tule IRA is not recommended for wilderness designation in the final revised forest plan. Rather, it is zoned as Back Country Non-Motorized and will be managed to preserve its roadless characteristics.

The Angeles National Forest should explain the rationale for the statement that designation of the Fish Canyon Inventoried Roadless Area as wilderness would have no effect on the mountain bike and OHV activities on the Liebre Mountain Road. (PC 2268)

The statement you cite that mountain bike and OHV use on Liebre Mountain road would be eliminated is an error on our part and has been corrected in the inventoried roadless analysis. The road is outside the recommended wilderness boundary.

The Angeles National Forest should consider the ever increasing usage of the nation's wilderness system and plan for it accordingly. (PC 2269)

See PC 2179 (Wilderness). Table 343 (Angeles National Forest - Inventoried Roadless Areas evaluated) in the FEIS summarizes the evaluation of inventoried roadless areas on the Angeles National Forest. The need for the Fish Canyon roadless area to be recommended for wilderness was rated as moderate. This rating took into consideration current and projected use and reflects the potential increase in future use. The FEIS (Chapter 3, Affected Environment, Wilderness) contains a full discussion of current and future wilderness use. The decision to relocate a campground or provide additional access is a site specific decision and is outside the scope of this plan revision process.

The Cleveland National Forest should revise its description of the proposed Sitton Peak Undeveloped Area to extend the boundary west and to accurately describe road condition. (PC 2223)

Many of the inventoried roadless areas and other undeveloped areas within the Cleveland National Forest have low to moderate wilderness capability and availability because of manageability issues, boundary considerations and existing constraints and encumbrances - including the Sitton Peak roadless area.

Based on a review of wilderness evaluations for the Cleveland National Forest that include all the criteria contained in FSH 1909.12, Chapter 7, as well as public comment on these areas, Sitton Peak is not recommended for wilderness designation in the selected alternative of the forest plan. Back Country Non-motorized and Back Country Motorized Use Restricted land use zoning have been applied to this area because it permits future consideration of a broad range of fire and fuels management activities, non-motorized public access, mechanized recreation opportunities (mountain biking), and motorized access for other administrative purposes (BCMUR) while simultaneously protecting the natural, undeveloped character of the land.

The Cleveland National Forest should connect wilderness areas with biological corridors to lessen the isolation between ecological communities. (PC 2244)

See PC 2179 (Wilderness). Chapter 3 of the FEIS describes in detail the anticipated environmental effects of implementing various management strategies. The specific effects related to wilderness are described in Chapter 3 of the FEIS.

Based on public comment and the review of wilderness evaluation determinations (Appendix D of the FEIS), the Pine Creek Wilderness expansion area, and portions of the South Hauser Wilderness expansion area and the Cutca Valley Inventoried Roadless Area have been recommended for wilderness designation. Most of the other recommended wilderness areas displayed in Alternative 3 and Alternative 6 of the draft plan have been zoned primarily for Back Country Non-Motorized use, including undeveloped and unroaded portions of Silverado, Elsinore, San Mateo, Aguanga, Palomar, Black Mountain/San Dieguito, Upper San Diego River and Laguna Places. Management intent for these areas is to connect the undeveloped and unroaded lands on the Cleveland National Forest with biological corridors between ecological communities. Back Country Non-Motorized zoning will allow for a full range of non-motorized management actions and continued non-motorized public access, and will support maintenance of important wildlife habitat.

The Cleveland National Forest should interpret wilderness legislation to allow species/habitat protection activities in wilderness management. (PC 2246)

The Forest Service interpretation of wilderness legislation is articulated in agency policy for management of designated wilderness and is contained in Forest Service Handbook 2300, Chapter 2320. The objective of managing for ecological change is described in 2320.2. Specific direction pertaining to activities for species/habitat protection is contained in Sections 2320.3. The management of habitat and species protection is to support wilderness management objectives, not solely to protect habitat. This does not mean that habitat would not be managed, only that the wilderness objectives would control the emphasis of habitat protection.

Forest Service policy for identifying and analyzing potential wilderness in the National Forest System is contained in the Land and Resource Management Planning Handbook, Chapter 7, dated 8/3/92 (FSH 1909.12). Many of the inventoried roadless areas and undeveloped areas on the Cleveland National Forest have low to moderate wilderness Capability (7.21) and Availability (7.22) because of manageability issues and (7.21(5) boundary considerations, and constraints and encumbrances. Rapid development and loss of species/habitat in southern California has resulted in the need to actively manage species/habitat in

order to assure their viability. The minimum tool approach is applied to project level wilderness planning and implementation.

The Cleveland National Forest should provide the public with more discussion about the positive values of wilderness areas, rather than discussion of the difficulties if managing wilderness areas. (PC 2178)

See PC 2179 (Wilderness). The Cleveland National Forest carefully evaluated the potential addition of roadless areas to the National Wilderness Preservation System to determine the mix of land and resource uses that best met public needs. An area recommended as suitable for wilderness must meet the tests of capability, availability, and need. In addition to the inherent wilderness quality it possesses, an area must provide opportunities and experiences that are dependent upon or enhanced by a wilderness environment. Also considered was the ability to manage the area as wilderness.

Forest Service policy for identifying and evaluating potential wilderness is based on an evaluation of capability, availability and need. In accordance with Forest Service Handbook (FSH) 1909.12.7, the "positive values of wilderness" are evaluated in criteria described under Capability, i.e., Environment, Challenge, Outdoor Recreation Opportunities, and Special Features (7.21(1-4)), and Need, (7.23b(4-6)). (Availability is a description of other resource demands and uses that the area under evaluation could satisfy - demands and uses other than wilderness.)

Many of the inventoried roadless areas and undeveloped areas on the Cleveland National Forest have low to moderate wilderness capability (7.21) and availability (7.22) because of manageability issues (7.21(5)), boundary considerations (7.21 (5 a-e)), and existing constraints and encumbrances (7.22). As outlined in wilderness evaluations for each of the areas considered, the juxtaposition to densely populated urban centers and resulting popularity and increasing demand for nonconforming use (both motorized and mechanized), ongoing community protection (fire suppression and presuppression) needs, and the existing and escalating demand for urban infrastructure impair our ability to maintain the primitive and untrammelled conditions that are fundamental to wilderness. A complete evaluation based on all of the factors included FSH 1909.12 supplies the rationale for recommended wilderness designations.

The Cleveland National Forest should protect the wilderness characteristics of wilderness-eligible areas to retain their eligibility. (PC 2288)

Areas recommended for wilderness designation in the Record of Decision (ROD) will be managed to maintain their existing wilderness character and potential for inclusion into the National Wilderness Preservation System until congressional action on the recommendations and the Wilderness Study Area. Please see PC 2179 (Wilderness) regarding wilderness recommendations made in the selected alternative. Small portions of some of the areas evaluated have been zoned for motorized administrative access to allow for community defense and continued motorized access to private lands and permitted activities in and around the national forest boundary.

The set of inventoried roadless area maps identified in the Forest Service Roadless Area Conservation Rule FEIS, November 2000, has been updated in our Geographic Information System data layers in accordance with final revised forest plan decisions to recommend wilderness designation to Congress and allocate land use zoning. As site-specific projects are considered to implement the forest plan, any effects to the inventoried roadless areas will be acknowledged as a part of project-level NEPA analysis, which includes public involvement.

The Cleveland National Forest should "cherry stem" the Cutca Valley Truck Trail, located in the proposed Cutca Valley Wilderness Area, with Back Country (formerly called Back Country Motorized in the draft) zoning. (PC 2289)

In the selected alternative, the unroaded portions of the Cutca Valley Inventoried Roadless Area are recommended for wilderness. In accordance with wilderness designation, management intent is to

maintain the Cutca Valley Trail (1E01) for foot travel and stock-use only. Management intent for Cutca Road (FS8S08) corridor is to apply Back Country Motorized Use Restricted zoning up to the trailhead in Section 7, so that motorized public access can be considered if rights-of-way through private land to the north can be secured. The south end of Cutca Road has been zoned to allow motorized access for administrative, and permitted purposes in the event that motorized access to private land in the southern part of Section 18 and the surrounding area is requested. Revised statute 2477 status of the road is outside the scope of the forest plan.

The Cleveland National Forest should protect the Chiquito Springs area with a designation that affords the same protection as wilderness yet allows mountain biking and effective fire management. (PC 2280)

The Trabuco Inventoried Roadless Area (which contains the Chiquito Springs area) has been evaluated for wilderness designation. Based on these evaluations and public comment, most of the recommended wilderness area displayed in Alternatives 3 and 6 of the draft plan (including the Trabuco Inventoried Roadless Area) has been zoned for Back Country Non-Motorized use rather than wilderness designation. Management intent for these areas is to allow for a full range of non-motorized management actions as well as popular, non-motorized recreation activities, including mountain biking and other non-motorized public access.

The Chiquito Springs area proper (Chiquito Basin) has been evaluated and recommended for special interest area status. Management intent is to protect and interpret unique botanic values and continue to supply opportunities for environmentally sustainable trail-based recreation on existing system trails within this area. This administrative designation will have no effect on fire management activities between Holy Jim and the San Juan Trails.

The Cleveland National Forest should survey the San Mateo Wilderness for plants before brushing trails or planning clearings because some plants found in the San Mateo Wilderness are not found elsewhere in the District. (PC 2252)

Site-specific planning would be completed, including surveys, prior to implementing a ground disturbing project involving clearings. There are no current plans to establish clearings in any wilderness areas on the national forest. Further, this level of analysis is outside the scope of the revised forest plan.

The Cleveland National Forest should consider the impact that wilderness designation in the Coldwater Canyon area will have on the open fire policy because many visitors have long enjoyed the open fire policy there. (PC 2272)

The Coldwater Canyon dispersed area "yellow post" site (which visitors may drive to and have open campfires) has not been included in the Cucamonga B Roadless Area recommendation for wilderness in the selected alternative of the final forest plan. There will be no change in policy there.

Wilderness, Los Padres National Forest

The Los Padres National Forest should consider ways in which the recommended wildernesses can be adopted with provisions for vegetation (chaparral) management. (PC 1199)

The recommended addition to the Machesna Wilderness in Alternative 4 has not been included in Alternative 4a. These areas have been zoned as Back Country Non-Motorized. This zoning will continue to provide opportunities for non-motorized recreation and vegetation management activities.

The Los Padres National Forest should consider public concerns about vegetation management in wilderness areas proposed in Alternative 6. (PC 2251)

Based upon comments received, Alternative 6 has been revised to include many of the roads that were described as being closed in the draft. These roads would remain available for administrative use. Vegetation management is appropriate within wilderness to achieve wilderness objectives. (see Part 2 of

the forest plan, strategies, SD 1) The most recent wilderness legislation (Big Sur Wilderness and Conservation Act of 2002, PL 107-370) contained wording to authorize the Forest Supervisor to take whatever appropriate actions necessary for fire prevention including, but not limited to best management practices for fire presuppression and fire suppression measures and techniques.

The Los Padres National Forest should increase connectivity between its wilderness areas. (PC 2225)

See PC 2179 (Wilderness). Chapter 3 of the FEIS describes in detail the anticipated environmental effects of implementing various management strategies. The wilderness evaluations examine the need for additional wilderness, including the need for connectivity. Recommended wildernesses on the Los Padres National Forest would expand the system and connectivity. However, the presence of highways and forest roads prevent some of the subject wilderness and potential wilderness areas from being joined.

The Los Padres National Forest should recommend wilderness areas for designation and protect areas with natural resource values with other designations if they are too small for wilderness designation. (PC 2234)

See PC 2179 (Wilderness). Part 2 of the forest plan for the Los Padres National Forest describes land use zones and special area designations that represent alternative management strategies to meet resource objectives. Many of the smaller, unroaded areas have been placed in the Back Country Non-Motorized land use zone or Back Country Motorized Use Restricted land use zones. This zoning will maintain resource values and the unroaded, natural, undeveloped character of these areas while allowing for non-motorized public access, low-impact recreation activities and a full-range of non-motorized management actions, including community fire defense projects and mountain biking. Management intent is to maintain important resource values that characterize these areas, including aesthetic quality, air quality, biodiversity, botanic, wildlife habitat, soils, heritage, recreation and water resources (both quality and quantity).

The Los Padres National Forest should not recommend the La Brea Inventoried Roadless Area for wilderness designation, which would impair the ability to prescribed burn the area. In addition, the forest should establish a road/firebreak on the northern and eastern boundaries of this area for prescribed burn management. (PC 2235)

See PC 2179 (Wilderness). Chapter 3 of the FEIS discusses the effects of the alternatives on specific resources. For the issues outlined in this comment, please see discussion under Effects on Wilderness and Effects on Wildland Fire and Community Protection. The proposed La Brea Wilderness is recommended in Alternatives 3 and 4, but is not recommended in the selected Alternative 4a in order to utilize the existing fuelbreak, assist with prescribed burning outside the wilderness and to reduce the risk of wildfire. Establishment of a road is a site-specific decision and is outside the scope of the forest plan revision.

The Los Padres National Forest should ensure that alternative mapping reflects current conditions in the La Brea Inventoried Roadless Area, including designation of Wildland/Urban Interface (WUI) and zoning that allows for adequately addressing catastrophic fire. (PC 2236)

The La Brea Ranch area does not meet the criteria for WUI designation and is not within the Developed Area Interface land use zone in any of the alternatives. We anticipate that the bulk of our vegetation treatments will be focused in the WUI. In most cases, treatment of WUI Defense zones will be on private land although it may extend onto National Forest System land to meet minimum widths as noted in Part 3 of the forest plan, Standard 7. In response to your concern, the selected Alternative 4a does not recommend adding the La Brea roadless area to the National Wilderness Preservation System in order to maintain flexibility with fire/fuels treatments. The development of a burn plan for the La Brea area is outside the scope of the forest plan revision. Also see response to 2194 (Fire Management in Designated Wilderness).

The Los Padres National Forest should remove the Matilija Dam and expand wilderness designations as defined in the Southern California Wild Heritage Act HR3325. (PC 2250)

See PC 2179 (Wilderness). The needs for watershed and fisheries protection were considered in the wilderness evaluations. Matilija Inventoried Roadless Area is recommended for wilderness designation under the selected alternative. Removal of the Matilija Dam is a site specific decision and is outside the scope of the forest plan revision process.

Expanding the National Wilderness Preservation System as defined in HR3325 is outside the scope of the forest plan revision process.

The Los Padres National Forest should consider in their wilderness evaluation of Sespe-Frazier (Mount Pinos RD) Inventoried Roadless Area that the Potential Wilderness Area in the California Wild Heritage Act 2002 maps exclude a gas line, private property and is located away from Hwy 33. (PC 3071)

The wilderness evaluation of the Sespe Frazier Inventoried Roadless Area considered the area described in the Forest Service Roadless Area Conservation FEIS (November, 2000) and not areas proposed and described in the CWHA (2002). The Wilderness Act of 1964 (P.L. 88-577) does authorize specific activities that do not conform to the restrictions found in the Act, usually subject to regulation by the Secretary. In addition, many subsequent laws designating units of the National Wilderness Preservation System have authorized specific uses or activities that do not conform to the general prohibitions on the access and use of wilderness areas.

The Los Padres National Forest should consider in their wilderness evaluation of the availability of Sawmill-Badlands Inventoried Roadless Area that Pine Mountain Club is currently adjacent to wilderness and that the Wilderness Act clearly mandates the agency to take the steps it deems necessary to protect persons and property. (PC 2301)

The Wilderness Act of 1964 (P.L. 88-577) does authorize specific activities that do not conform to the restrictions found in the Act, usually subject to regulation by the Secretary. In addition, many subsequent laws designating units of the National Wilderness Preservation System have authorized specific uses or activities that do not conform to the general prohibitions on the access and use of wilderness areas. Most wilderness designations allow for fire presuppression and fire suppression measures and techniques. Approval for nonconforming uses in non-emergency applications is subject to administrative review and approval. Existing uses, improvements, and authorizations would be analyzed following wilderness designation. The decision to allow the uses or improvements to continue would be based on site specific decisions and are outside the scope of the forest planning process.

The Los Padres National Forest should consider in their wilderness evaluation of the Sawmill-Badlands Inventoried Roadless Area that existing grazing is an allowed use within wilderness; that sections 2-4 can be managed in unity with existing wilderness, and that wilderness designation puts no unique rights or responsibilities on private property or the owners, nor does it interfere with any private property uses. (PC 2304)

The manageability discussion in the Sawmill-Badlands Roadless Area analysis is an inventory of the existing situation. We agree with the facts as stated in the comment.

The Los Padres National Forest should amend its map of the proposed Wilderness Area extending across Buckhorn Trail because Wilderness extending across the trail would close it to mountain biking. (PC 2299)

Alternative 6 is the only alternative where a recommended wilderness area encompasses the Buckhorn Trail. Alternative 4a was selected (see map in revised forest plan). As noted in the boundary considerations in the wilderness evaluation, "redrawing the southern boundary of this roadless area using the Buckhorn Trail would allow for the continued use of mountain bicycles on the trail."

Wilderness, San Bernardino National Forest

The San Bernardino National Forest should consider in their wilderness evaluation of Horse Creek Ridge Inventoried Roadless Area that if guzzlers exist and are needed within the area, there are mitigation opportunities including placement for guzzlers in an adjacent State Game Reserve. (PC 1194)

The Horse Creek Ridge Inventoried Roadless Area is not recommended as wilderness in the selected alternative. The ability to conduct habitat improvements will not be constrained by the land use zone. The area will remain generally unroaded for the most part, which should provide for relatively undisturbed wildlife populations.

The San Bernardino National Forest should explain the factors that are considered during the wilderness recommendation process for the Sugarloaf Inventoried Roadless Area. (PC 2242)

See response to PC 2179 (Wilderness). The Sugarloaf Roadless Area was not recommended for wilderness designation in the selected alternative of the final plan.

The San Bernardino National Forest should expand the Sheep Mountain and Cucamonga Wilderness Areas into Stockton Flats and upper Lytle Creek watershed to protect the arid fringe montane forests in those areas as well as buffers of lower elevation chaparral and oak scrub. (PC 2245)

The Cucamonga Wilderness is being recommended for expansion along its eastern and northern boundary, it covers much of the area of the upper Lytle Creek watershed, and coalesces with the Sheep Mountain Wilderness northwest of Stockton Flat. Please refer to the map of the selected Alternative 4a for a delineation of the recommended wilderness boundary.

The San Bernardino National Forest should utilize wilderness designation to protect core habitat for Nelson's bighorn sheep in Cucamonga B and C. (PC 2248)

The San Gabriel Mountain population of Nelson's bighorn sheep was listed as sensitive by the Regional Forester in 2004. The population has plummeted in the last 15 to 20 years, going from approximately 700 animals down to approximately 100. This is believed to have been caused primarily by the lack of fire in key winter ranges which resulted in dense unsuitable habitat and poor forage conditions. The Grand Prix Fire of 2003 should improve the situation for sheep substantially. A portion of Cucamonga B Inventoried Roadless Area and Sheep Mountain Undeveloped Area have been recommended for wilderness designation in the selected alternative of the final forest plan for the San Bernardino National Forest.

The San Bernardino National Forest should recognize that the Wilderness Act provides exemptions with regard to vegetation, wildlife, and fire management in wilderness areas. (PC 2240)

See PC 2179 (Wilderness). The Wilderness Act of 1964 and Forest Service Manual direction provide land managers with tools to reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness. This includes the use of motorized equipment and/or mechanical transport. Based upon comments received, this has been clarified in Part 2 of the Plan, strategies, SD 1. The recovery plan for the California Condor is an example of an exception within wilderness to manage specifically towards the recovery rather than guided by wilderness values alone.

The San Bernardino National Forest should consider in their wilderness evaluation of the Cucamonga Wilderness addition that designation might jeopardize the unique dispersed recreational opportunity at Stonehouse Crossing, and consider potential mitigation of creation of a developed campsite at the existing trailhead within Section 17 and conversion of Stonehouse Crossing into a backcountry camp with an open/stove fire policy. (PC 426)

The Stonehouse Crossing dispersed campsite will be included within the boundary of the recommended Cucamonga Wilderness expansion in the selected alternative of the final forest plan. The San Bernardino

National Forest will determine the use of this site, including campfires, after plan approval and wilderness designation by Congress.

The San Bernardino National Forest should consider a different boundary for the recommended Cucamonga B Wilderness addition to provide better protection for Nelson's bighorn sheep and sugar pine stands. (PC 2133)

The boundary of the Cucamonga B Inventoried Roadless Area (as shown in the FEIS and plan maps) was derived from the boundary used in the Forest Service Roadless Area Conservation EIS, Volume 2, Maps (November 2000). Adjustments to the boundary, including removal of substantial acreage just west of Lytle Creek to address community wildfire protection issues, were made after analysis by the planning team, forest and public input. The selected alternative wilderness recommendation boundary was modified further to address community fire protection and resource concerns by the setback of the northeast section along the toe of the slope rather than adjacent to Lytle Creek Road, allowing better access for wildfire suppression efforts. Nelson's bighorn sheep and significant stands of sugar pine are adequately protected within the recommended wilderness in the selected alternative.

The San Bernardino National Forest should consider the pressure that the San Gorgonio Wilderness Expansion (Raywood Flat B) proposal will face given its location in a checkerboard land ownership area. (PC 2196)

The likelihood of development on the mixed-ownership "checkerboard" private land parcels around the recommended wilderness of the Raywood Flat B Roadless Area is minimal due to very steep terrain. Boundary factors, including location, size, shape, and juxtaposition to external influences were considered in the wilderness analysis. If designated as wilderness, no development would be allowed on the National Forest System lands.

The San Bernardino National Forest should extend the San Gorgonio Wilderness to the edge of Highway 38. (PC 2203)

The western area of Yucaipa Ridge is roaded and does not qualify for wilderness evaluation.

The San Bernardino National Forest should consider the impacts that developments will have on the wilderness characteristics of non-protected areas including the Cahuilla Mountain Inventoried Roadless Area. (PC 2212)

See PC 2179 (Wilderness). The wilderness evaluation process included an analysis of possible wilderness boundary locations to ensure they avoid conflict with important existing or potential public uses outside the boundary that might result in demands to allow nonconforming structures and activities in the wilderness. The Cahuilla Mountain Inventoried Roadless Area was not recommended for wilderness designation in the selected alternative of the forest plan. The majority of the area is zoned as Back Country Non-Motorized.

The San Bernardino National Forest should be sensitive to providing access to the Sugarloaf Wilderness for all to enjoy and help to monitor and maintain. (PC 2291)

Under the selected Alternative 4a, the Sugarloaf Roadless Area has been designated as Back Country Motorized Use Restricted and Back Country Non-Motorized land use zones. It has not been recommended as wilderness.

The San Bernardino National Forest should consider in their wilderness evaluation of Horse Creek Ridge inventoried roadless area (IRA) that the grazing allotment does not preclude wilderness designation. In addition, mountain bike activity is well-accommodated outside of the IRA and may be incompatible with trail 2E17. Finally, the "sight and sound purity" approach to wilderness designation should be reconsidered in this evaluation as well as in those for the Rouse Hill and Hixon Flat IRAs. (PC 2303)

The Wilderness Act of 1964 and Forest Service Manual direction 2320 allow for continued management of grazing by permit as well as range structural improvements within designated wilderness. The process used to evaluate the Horse Creek Ridge Inventoried Roadless Area for potential addition to the National Wilderness Preservation System is described in Appendix D of the FEIS. A full description and analysis of the area is found on the Southern California Forest Plan Revision website, Reading Room. The range allotment was one of a number of capability, availability and need factors reviewed by the decision maker. Horse Creek Ridge is not recommended for wilderness designation in the selected alternative. See the response to PC 2158 (Wilderness) for an explanation of how sights and sounds are factors in the wilderness evaluation process.

The San Bernardino National Forest should ensure that Native Americans have access to sites of cultural importance when considering wilderness designations. (PC 2257)

Roadless areas within the San Bernardino National Forest may contain sites that are of ceremonial or spiritual value to Native Americans. The American Indian Religious Freedom Act of 1978 directs federal agencies to obtain and consider the views of Indian leaders when a proposed land use might conflict with traditional beliefs. In addition, EO 130007 directs federal agencies to manage public lands in a manner that accommodates Indian religious practitioners access to sacred sites. The recommendation of wilderness designation does not restrict Native American access to sites; however, it may pose restrictions on the method of access (such as mechanical transport). An administrative process exists by which tribes may apply for wilderness access permission using mechanical transport.

The San Bernardino National Forest should recognize that historic home sites exist within many wilderness areas and are not an impediment to designation, including the old homestead site at Sugarloaf Meadow. (PC 2262)

The old homestead site at Sugarloaf Meadow was described in the roadless area evaluation as a manageability factor, not an impediment to wilderness recommendation. The Wilderness Act of 1964 states that wilderness is "an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation..." The Act also states that wilderness may contain "...features of scientific, educational, scenic, or historic value." The old homestead site at Sugarloaf Meadow has not been evaluated as to its historic value, and until such time that it is evaluated, it is afforded the same protection and legal processes that heritage resources that have been evaluated as having historic value are accorded.

The San Bernardino National Forest should keep Pyramid Peak Inventoried Roadless Area as Back Country Non-Motorized and Roaded Natural without further wilderness extension. (PC 2277)

The process used to evaluate inventoried roadless areas for potential addition to the National Wilderness Preservation System is found in Appendix D. Inventoried Roadless Areas (IRAs) of the FEIS. A full description and analysis of the Pyramid Peak A and B Roadless Areas are found on the Southern California Forest Plan Revision website, Reading Room. A portion of the area has been zoned as recommended wilderness (north and east of Pyramid Peak). Other portions of the area have been zoned as Back Country (near Garner Valley), Back Country Motorized Use Restricted (near Pinyon), and Back Country Non-Motorized (near Palm Canyon).

The San Bernardino National Forest should consider the impact that wilderness designation of the Sheep Mountain Undeveloped Area will have on ski areas. (PC 2274)

The process used to evaluate inventoried roadless areas for potential addition to the National Wilderness Preservation System is found in Appendix D. Inventoried Roadless Areas (IRAs) of the FEIS. A full description and analysis of the Sheep Mountain Undeveloped Area is found on the Southern California Forest Plan Revision website, Reading Room. A portion of that area is being recommended for wilderness designation in the selected alternative of the final forest plan. If designated, an expansion of the Mt. Baldy Ski Area would not be permitted in that area.

The San Bernardino National Forest should consider the impact that wilderness designation near the Cucamonga Wilderness will have on mountain biking opportunities. (PC 2273)

A full description and analysis of the Cucamonga B and C Roadless Areas is found on the Southern California Forest Plan Revision website, Reading Room. Portions of the Cucamonga B Roadless Area are recommended for wilderness designation. However, there are no system trails in the area recommended. The boundaries for the area are set back at least 200 feet from all system roads. National Forest System Road 3N06 from Stockton Flat to Baldy Notch has been classified as a Back Country Motorized Use Restricted land use zone, left open and out of any wilderness recommendation to allow continued mountain bike use. Mountain biking opportunities are not forgone in this area.

Wild and Scenic Rivers

The Forest Service should recommend areas for Wild & Scenic River designation, or protect eligible Wild and Scenic Rivers until suitability studies are completed and final recommendation made to Congress; < and >

The Forest Service should not recommend areas for Wild & Scenic River designation, or should not protect eligible Wild and Scenic Rivers until suitability studies are completed and/or the river is designated by Congress. (PC 2284)

Some concern was expressed about the adequacy of the study process. The process used to identify, evaluate and recommend candidate wild and scenic rivers for potential addition to the National Wild and Scenic Rivers System is described in FEIS Appendix E, Background and Study Process, including the criteria that the four southern California national forests used to evaluate river values. Additional direction is contained in the Wild and Scenic Rivers Act of 1968 (as amended) and in Forest Service Handbook 1909.12, Chapter 8. Forest planning must address all rivers designated by Congress for study, those found in the Nationwide River Inventory, or those identified as a potential wild and scenic river by a national forest, wholly or partially on National Forest System lands.

Each national forest evaluated their candidate rivers to verify that it met the eligibility criteria specified in sections 1(b) and 2(b) of the Wild and Scenic Rivers Act, then documented the finding of eligibility or non-eligibility and the river's potential classification. Public comments on the draft forest plans and Environmental Impact Statement were reviewed for any new information to be incorporated. There have been some revisions between the draft and final EIS including a change of determination to eligible for the West Fork of the San Gabriel River and for the lower Piru River. Also note that we have clarified that there is a portion of the lower Piru River that is managed by the Angeles National Forest. The detailed river inventories completed on each national forest may be found on the forest plan revision CD and in the Reading Room on the four southern California national forests' websites. Also see FEIS table 164: Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, ANF; table 165: Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, CNF; table 166: Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, LPNF; table 167: Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, SBNF).

Some individuals questioned why impacts were not considered in the eligibility phase. Note that the eligibility study is an inventory process, whereas it is the suitability study that determines the benefits and impacts of wild and scenic river designation.

Recommendation to Congress for addition to the National Wild and Scenic River System is determined through the suitability study. Suitability determinations were completed for eligible rivers on the Los Padres National Forest (see table 103: Suitability Study Summary for Candidate Wild and Scenic Rivers, LPNF). Suitability determinations on eligible rivers of the Angeles, Cleveland and San Bernardino National Forests, as well as on Piru segments 6-7 on the Los Padres National Forest (which were determined to be eligible during the review of public comment) will occur as a subsequent separate study. At the time of the suitability study, a number of factors will be considered including the reasonably foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the National System, including recreation activities in the river corridor. Suitability studies do not require Congressional approval. Public involvement will be a part of the planning per the National Environmental Policy Act that is completed for the suitability studies.

The FEIS Chapter 2 (Alternative Comparison (Land management Plan Decisions) describes how the 20 rivers (in part or total) identified as eligible for inclusion into the National Wild and Scenic River System on the San Bernardino, Cleveland, and Angeles National Forests are managed to protect and/or enhance the river's outstandingly remarkable values and maintain their highest potential classification until suitability studies are completed at a later date and a decision is made as to the future use of the river and adjacent lands. To the extent the Forest Service is authorized under law to control stream impoundments and diversions, the free-flowing characteristics of the identified river cannot be modified, outstandingly remarkable values of the identified river area must be protected (and, to the extent practicable, enhanced), and management and development of the identified river and its corridor cannot be modified to the degree that eligibility or classification would be affected.

The revised forest plan addresses protection of eligible rivers' outstandingly remarkable values and potential classification (see Part 2, Special Designation Overlays section). Proposed new facilities, management actions, or uses on National Forest System lands are not allowed if they have the potential to affect the eligibility or potential classification of the river segment. Standard S59 in Part 3 of the revised plan also addresses protection of Congressionally designated, Agency recommended and eligible wild and scenic rivers.

Bear in mind that this management direction applies only to National Forest System lands, not adjacent private property. In addition, please note that findings of river eligibility and/or suitability do not necessarily stop existing uses or prevent new uses, and that determination is made on a case-by-case basis using the criteria established for each classification of river. However, it would prevent the construction of new dams or impoundments.

There were concerns regarding water flow. Rivers may be divided into segments for study purposes, and these segments may exist between dams or impoundments and have managed flows. Also, there are no specific requirements concerning minimum flows for eligible river segments. The Wild and Scenic Rivers Act provides definitions in Section 16(a) and (b). Flows are considered sufficient for eligibility if they sustain or complement the outstandingly remarkable values for which the river would be designated.

The Forest Service should recommend, consider recommending, or complete suitability studies for a number of name requested areas for Wild & Scenic Rivers designation, including for resource protection reasons; should classify rivers with appropriate classifications; and if suitability studies are not completed should at least commit to completing the Wild & Scenic Rivers suitability studies within three years after plan adoption. (PC 2317)

Please see the response to PC 2284 in this section. The Federal Register Notice (September 21, 2001) indicated the forest plan would recommend to Congress areas eligible for wild and scenic river

designation only, not which rivers were suitable. Suitability determinations are not required in forest plan revisions. Also, there is no direction to complete them within three years after plan adoption. The preferred process is to proceed with determining suitability by completing a river study in the draft forest plan. An alternative is to delay the suitability determination on eligible rivers until a subsequent separate study is carried out. If this latter alternative is used, the forest plan must provide for protection of the river area until a decision is made as to the future use of the river and adjacent lands (Wild and Scenic River Assessment Process, National direction letter of 11/21/96). Suitability determination on eligible rivers of the Angeles, Cleveland and San Bernardino National Forests will occur as a subsequent separate study at some future point. In the meantime, these forest plans provide for protection of the river area until a decision is made as to the future use of the river and adjacent lands.

With regard to the concern about the fisheries values in the Little Sur River, please see the response to PC 2349 under Wild and Scenic Rivers, Los Padres National Forest.

The Forest Service should consider the impact that Wild and Scenic Rivers (WSR) designations will have on popular areas and existing uses. Specifically, forest plan direction regarding WSR should not constrain future Santa Ana Region Water Quality Control Plan changes that may be necessary to protect beneficial uses of a number of surface waters on the San Bernardino National Forest or impact the main runs at Mt. Waterman Ski Area. (PC 2356)

The Wild and Scenic Rivers Act (WSRA) directs that each river in the National Wild and Scenic Rivers System (National System) be administered in a manner to protect and enhance a river's outstanding natural and cultural values. It allows existing uses of a river to continue and future uses to be considered, so long as existing or proposed use does not conflict with protecting the river's "outstandingly remarkable values" (see FEIS tables 164-167). The most important provision of the WSRA is protecting rivers from the harmful effects of water resources projects. To protect free-flowing character, the Federal Energy Regulatory Commission (which licenses nonfederal hydropower projects) is not allowed to license construction of dams, water conduits, reservoirs, powerhouses, transmission lines, or other project works on or directly affecting wild and scenic rivers.

The WSRA also directs building partnerships among landowners, river users, tribal nations, and all levels of government.

The suitability study phase will be initiated at a later date for the eligible rivers on the San Bernardino National Forests, including those within the Santa Ana River watershed. However, the revised forest plan will provide management direction to protect the free-flowing character, potential classification, and outstandingly remarkable values of eligible rivers until a suitability study is completed and final recommendation to Congress regarding river designation is made.

Based on the finding that mapping of the Cooper Canyon Creek study river corridor does indeed overlay the Mt. Waterman ski area and its infrastructure, the Angeles National Forest revised the potential classification of this eligible river segment from scenic to recreational.

The Forest Service should consider climate variables that would affect "static" condition of designation when making Wild & Scenic Rivers determinations. The Forest Service must also base the criterion for fish biological needs on actual biological composition and not past conditions. (PC 2383)

Please see response to PC 2284 in this section. Also, please note that the direction contained in the FEIS (Appendix E. Wild and Scenic Rivers) allows for consideration of known or historically occupied habitat. In addition, the fish species found in southern California have evolved and adapted to drought conditions.

The Forest Service should reconsider their proposed Wild and Scenic River designation of certain rivers, taking into account lack of year-round flow and also the need to assure public health and safety where existing water supply projects have been historically depended upon by existing communities. (PC 1049)

The Forest Service only recommends suitable wild and scenic rivers (WSR). Congress then makes the decision to add the river to the National Wild and Scenic River System (or not). Wild and scenic river recommendations are made in the revised land management plan for the Los Padres National Forest, but not for the other three national forests until suitability studies are completed.

Intermittent rivers can be considered eligible for purposes of WSR evaluation if the volume of flow is sufficient enough to sustain or complement the outstandingly remarkable values identified within the river segment. Rivers with intermittent or non-perennial flows may be representative of rivers within particular physiographic regions.

The revised forest plans are expected to have no effect on existing agreements, including water rights. All existing agreements, contracts, claims, or permits are valid and expected to continue. The agency is bound by law and its own policies and direction, see Forest Service Manual, Chapter 2540 (Water Uses and Development), to always consider existing water uses and water rights in its planning efforts. Your location-specific comments and concerns can be best incorporated and analyzed at the project level of planning and fall outside the scope of this document. A listing of proposed WSR suitability studies, watershed improvement and rehabilitation projects is available by contacting the national forest offices.

The Forest Service should provide detailed maps of individual rivers eligible for Wild and Scenic River designation. (PC 511)

The six alternative maps show eligible stream and segmentation along with potential classification. The eligibility inventories, found in the Reading Room on the website and on the Forest Plan CD, also include a description of each segment. On the Los Padres National Forest where a suitability study was completed, the alternative maps show study river segments that are recommended to Congress for inclusion into the Wild and Scenic River system along with recommended classification.

The Forest Service should specify what constitutes a "major diversion" with regard to the Wild & Scenic River Designation. (PC 1079)

The process used to identify, evaluate and recommend candidate wild and scenic rivers for potential addition to the National Wild and Scenic Rivers System is found in the FEIS, Appendix E. Wild and Scenic Rivers. Additional direction is contained in the Wild and Scenic Rivers Act of 1968 (as amended) itself and in FSH 1909.12, Chapter 8 - Wild and Scenic River Evaluation. There are no specific requirements concerning minimum flows for an eligible segment. The Wild and Scenic Rivers Act provides definitions in Section 16(a) and (b). Flows are considered sufficient for eligibility if they sustain or complement the outstandingly remarkable values for which the river would be designated (FSH 1909.12).

The Forest Service should analyze the adverse effects of Wild & Scenic Rivers designations in the EIS. (PC 2327)

The effects of designation for rivers recommended to Congress under each alternative are described and analyzed in Chapter 3 of the FEIS under the section of the resource being affected. The direct and indirect effects of potential Wild and Scenic River designations on municipal water systems and hydroelectric power projects are found in the section entitled Non-Recreation Special Uses.

The Forest Service should clearly delineate what "Wild and Scenic" values are. (PC 2390)

Please see responses to PC 2284 and PC2327 in this section. Also, see Chapter 3 of the FEIS, Effects on Motorized Trails, for a description of the effects of potential designation on off-highway vehicle activities.

The Forest Service should revise its proposed Wild and Scenic Rivers designations so that they do not impact existing hydropower facilities, diversions, or access thereto. (PC 2311)

Please see response to PC 2284. In addition, these free-flowing candidate rivers, although already managed by the Forest Service and subject to all existing laws and regulations, must be identified and evaluated through the forest planning process. Findings of river eligibility and/or suitability do not necessarily stop existing uses or prevent new uses; that determination is made on a case-by-case basis using the criteria established for each classification of river. However, it would prevent the construction of new dams or impoundments. No existing hydroelectric infrastructure is located within an eligible river segment on the Angeles or San Bernardino National Forests.

Wild and Scenic Rivers, Angeles National Forest

The Angeles National Forest should classify the upper portions of San Antonio Creek and Little Rock Creek as "Wild" rather than "Recreational" or "Scenic," respectively because these classifications would be more appropriate based on their existing level of non-development. (PC 2357)

Upon review of the Little Rock and San Antonio Creek Wild and Scenic River evaluations, the national forest made no change to San Antonio Creek's classification. However, Cooper Canyon Creek (Little Rock Creek - Upper) was changed from a preliminary classification of "scenic" to "recreational." The reason for lowering the classification is that in response to a ski area's concern for effects on its main runs, the national forest found that mapping of the uppermost portion of the Cooper Canyon Creek river corridor did indeed overlap the ski area and existing development.

The eligibility classifications represent an internal inventory based on the professional judgment of resource professionals, not a formal decision. Final determinations relative to classification will be done during the suitability analysis.

The Angeles National Forest should assess all forks of the San Gabriel River as a whole when determining its Wild & Scenic Rivers eligibility because the values of each fork complements and reinforces each other. (PC 2373)

The Angeles National Forest included all, or portions of all, forks of the San Gabriel River as part of its recommendation for eligibility for wild and scenic river status in the selected Alternative 4a. The national forest added both segments of the West Fork San Gabriel River, which is a change from the draft (Alternative 4). Please see response to PC 2284 (Wild and Scenic Rivers).

The Angeles National Forest should explain the discrepancy between the Angeles National Forest Strategy, which states that the upper and lower segments of the West Fork San Gabriel River are eligible for Wild & Scenic Rivers status, and the larger plan appendix, which has tables indicating that the upper segment of the West Fork San Gabriel River is ineligible due to a lack of outstanding values and the lower segment is ineligible because it supposedly is not free-flowing. (PC 2358)

Both the upper and lower river segments of the West Fork San Gabriel River have been recommended as eligible for inclusion into the National Wild and Scenic River System. Changes to the revised forest plan and FEIS Appendix E. Wild and Scenic Rivers reflect this change accordingly.

The Angeles National Forest should use the Angeles National Forest and the San Gabriel Mountain Range as the definitive "region" for purposes of the Wild & Scenic Rivers criteria of outstanding cultural or natural values in the regional context; and should better define the local, regional, or national context of Wild & Scenic River criteria, including regarding the assessment of Little Rock Creek's scenic and recreational values. (PC 2372)

Appendix E. Wild and Scenic Rivers refers the reader to the 'Wild and Scenic River Assessment Process, National direction letter of 11/21/96' for specific guidance on the determination of outstandingly remarkable values, including how to define the area, region, or scale of comparison.

Wild and scenic river eligibility determinations for the creeks and streams on the national forests in southern California have been made based on the criteria contained in Forest Service Handbook 1909.12, section 8.2. This section describes the criteria for determining "outstandingly remarkable values" and the scale of comparison to be applied. The criteria requires an evaluation of rivers of "regional or national" importance. For the purposes of the evaluations conducted on all four of the southern California national forests, the unit used to define "regional" importance was determined to be the planning assessment area as defined in Chapter 1 of the FEIS. This area is the same as the Southern California Mountain and Foothills Assessment planning area and in general encompasses the four southern California national forests and corridors in between. "Local" was determined to be the national forest (including local communities).

The Angeles National Forest should not include any areas in San Antonio Canyon as Wild & Scenic River study areas because it would thwart the progress of a land exchange being undertaken by the recreation cabin holders in this area. (PC 2316)

Such a land exchange would be a consideration in the suitability study phase prior to any recommendation to Congress to include this river in the National Wild and Scenic Rivers System. The suitability study would need to be completed prior to a decision on the land exchange.

The Angeles National Forest should explain its decision to classify the riverbed along San Francisquito Canyon as a "recreational river." (PC 2336)

Please refer to FEIS Appendix E, Background and Study Process, which explains that potential classification is based on the river's condition and current level of development. The recreational classification offers the lowest level of protection for a river of the three classes: wild, scenic, and recreational. The classification is based on the following: both reaches of the stream are readily accessible by San Francisquito Canyon Road, which is visible from the stream for most of its length; and several powerlines and OHV routes run parallel to and cross the drainage in several places. Recreational classification is not to be confused with a determination that recreation is an outstandingly remarkable value. The San Francisquito Creek was not found to have outstandingly remarkable recreation values. However, the stream has outstandingly remarkable fish and wildlife values in both reaches, and outstandingly remarkable geologic and historic values in the lower reach.

Wild and Scenic Rivers, Cleveland National Forest

The Cleveland National Forest should recommend or consider recommending, or complete eligibility studies for, areas for Wild and Scenic Rivers designation in order to protect a variety of values into perpetuity. (PC 2322)

The San Luis Rey River (Main), San Mateo Creek and Devil Canyon, and Upper Cottonwood Creek and have been determined to be eligible for wild and scenic river status; however, the revised forest plan will not include any recommendations for wild and scenic river designation, which is determined through suitability analysis. Until a suitability study has been completed, the unique wildlife values (San Luis Rey River), steelhead trout and botanic values (San Mateo/Devil Canyon) and heritage values (upper Cottonwood Creek) will be protected to maintain eligibility. (See the revised forest plan, Part 2, Special Designation Overlays, and Standard S59 in Part 3.)

Wild and Scenic River eligibility studies for the upper San Diego River, Boulder Creek, Cedar Creek, lower Cottonwood Creek, Pine Valley Creek the West Fork San Luis Rey River, Upper San Luis Rey River, San Juan Creek, and Noble Canyon, have been completed. No resource values with national or regional significance have been identified (see FEIS table 165: Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, CNF).

Based on topography, road density, current management, and public comment (including the value of these rivers to abutting communities), Back Country Non-Motorized zoning has been applied to most of these river corridors. This zoning was applied to maintain the unroaded, natural, undeveloped character

of the river corridors while allowing for a full range of non-motorized management actions and recreation activities, including fire suppression/presuppression and mountain biking. Important resource values that characterize these areas, including scenic, botanic, wildlife, ecological, heritage, recreation, fisheries, and water resources (both quality and quantity) will be maintained for the planning period. Regardless of topography, opportunities for non-motorized public access will not be affected by this zoning.

The process for wild and scenic river eligibility determination on the Cleveland National Forest included an initial screening of all of the creeks and streams on the national forest to assess the potential for resource values with national or regional significance and free-flowing characteristics. No potential nationally or regionally significant values were identified for Sill Hill Creek, Pauma Creek, and Water-of-the Woods segment of the Pine Creek.

The Cleveland National Forest should use the Cleveland National Forest, the Santa Ana Range, the Palomar Range, and the Laguna Mountain Range as the definitive "region" for purposes of the Wild & Scenic Rivers criteria of outstanding cultural or natural values in the regional context. (PC 2374)

Please see the response to PC 2372 in Wild and Scenic Rivers, Angeles National Forest. The Santa Ana, Palomar, and Laguna Mountain Ranges and the counties that surround the Cleveland National Forest, (San Diego, southern Riverside and Orange counties) are "local" by this definition. With regard to determinations concerning recreation resources, research suggests that nearly all of the visitors to the Cleveland National Forest are from nearby neighborhoods and communities. None of the rivers on the Cleveland National Forest are notable for recreation nationally, or attract visitors from throughout or beyond the Mountains and Foothills Assessment Area, the Mountains and Foothills Ecosystem Province.

The Cleveland National Forest should consider Pine Valley Creek and its tributaries, Noble Canyon and Lake of the Woods Creek (Water-of-the-Woods Creek), as one hydrologic unit for purposes of Wild & Scenic Rivers eligibility inventory. (PC 2375)

Both Noble Canyon Creek and Pine Valley Creek have been determined to be free flowing. Separate wild and scenic river eligibility studies for Pine Valley Creek and Noble Canyon Creek have been completed and no resource values with national or regional significance have been identified. (See table 165: Eligibility Inventory Summary for Candidate Wild and Scenic Rivers, CNF and the detailed report in the Reading Room on the forest revision CD or the forest website). A combined assessment of these two creeks would not alter or increase the significance of their associated resource values.

Regarding the Water-of-the Woods Creek segment of Pine Creek, please see the response to PC 2322 in this section.

Wild and Scenic Rivers, Los Padres National Forest

The Los Padres National Forest should recommend or consider recommending, or complete eligibility studies on, areas for Wild & Scenic Rivers designation to protect a variety of values. (PC 2333)

Please see response to PC 2317 under Wild and Scenic Rivers. In addition, the Los Padres National Forest evaluated potential additions to the National Wild and Scenic River System in the 1988 FEIS for the Land and Resource Management Plan. The 1988 FEIS contained documentation of eligibility and suitability studies for the Big Sur, Sisquoc, and lower Piru Rivers and Sespe Creek. The 1988 FEIS found all four eligible and all but the lower Piru River suitable. The Big Sur and Sisquoc Rivers and Sespe Creek were recommended and designated as wild and scenic rivers. In an amendment to the 1988 Land and Resource Management Plan, the Los Padres National Forest agreed to study the Arroyo Seco, Carmel, South Fork of the Sisquoc, and Santa Ynez Rivers; and Tassajara, Manzanita, La Brea, Santa Cruz, Mono, Indian, and Santa Paula Creeks. The Los Padres Condor Range and River Protection Act of 1992 directed the Los Padres National Forest to study the Little Sur and Piru Rivers and Lopez, upper Sespe, and Matilija Creeks. These studies were begun in 1994, but never completed. In 1996, a national letter of direction on

the Wild and Scenic River Assessment process provided detailed guidance on evaluating river-related resource values and determining "outstandingly remarkable values." Therefore, the determination of outstandingly remarkable values and river eligibility begun in 1994 was amended in accordance with this direction.

The Los Padres National Forest should not recommend areas for Wild & Scenic Rivers designation, especially Piru Creek and Little Sur River. (PC 2354)

Please see response to PC 2284 under Wild and Scenic Rivers. The Little Sur River is not recommended for designation in Alternatives 1, 2, 4, 4a, and 5. Alternative 3 recommends designation of the North Fork only with a recreational classification outside of wilderness. The upper Piru River is not recommended for designation in Alternatives 1 and 5. In areas where motorized trails exist, the Piru is recommended for a scenic river designation. Scenic and particularly recreational designations allow for OHV use within the wild and scenic river corridor.

The Los Padres National Forest should reconsider its finding of "ineligible" for streams/ivers, including for the Little Sur River. (PC 2349)

Please see response to PC 2284 under Wild and Scenic Rivers. In addition, for the Little Sur River, all streams with steelhead are important but only select streams were determined "outstandingly remarkable." In addition to the national direction for determination of eligibility, the study team considered the habitat and population of each river in the context of comparison to the known populations or habitats of the team's other study rivers and applied the following additional criterion: To be outstandingly remarkable, the segment will either have the wild/heritage trout waters designation by California State Fish and Game or have the presence of threatened, endangered or sensitive (TES) fish species of regional or national significance AND at least one of the following factors: 1) the largest number of mating pairs locally or regionally, or the only mating pair; or 2) multiple populations of a TES species; or 3) the largest or most robust populations; or 4) high diversity of rare or not rare fish species or habitats present. Known or historically occupied habitat that is still suitable is to be considered, but modeled habitat is not to be considered. The type of classification has no effect on the level of protection afforded to identified outstandingly remarkable values.

The steelhead habitat and populations in both the Big Sur and Little Sur Rivers were known at the time the Big Sur was designated; thereby, identifying the fishery and other duplicative resource values in the Big Sur as outstandingly remarkable in comparison. The importance of steelhead was discussed in the Los Padres' Wild and Scenic River eligibility and suitability analysis in the FEIS. Also see the responses to PC 803 in Land Use zoning and Overlays, place-based program emphasis and PC 826 regarding zoning and protection of steelhead.

The Los Padres National Forest should divide the Little Sur River into segments that reflect the two primary categories of land status on the river - the largely publicly owned segments within the national forest boundary and the privately owned segments downstream of the national forest boundary. (PC 2388)

The determination of segment limits considered obvious changes in land status or ownership; changes in river character such as the presence of dams and reservoirs; significant changes in development; or the presence of important resource values (Forest Service Handbook 1909.12, 8.21a).

The Los Padres National Forest should reevaluate the portions of the Little Sur River that are not accessible to the public. (PC 1051)

Changes were made to the documentation of the eligibility and suitability studies to reflect restrictions on public access (see Reading Room on the forest plan revision CD or forest websites).

The Los Padres National Forest should defer determining suitability of the privately owned segments of the Little Sur River downstream of the national forest boundary until Monterey County or the State of California expresses an interest in cooperative designation. (PC 2314)

Only those segments of the Little Sur River within the administrative boundary of the Los Padres National Forest (segments 1 and 2) were addressed in the suitability study. Monterey County was contacted by mail during the suitability analysis process and no response was received.

The Los Padres National Forest should consult and cooperate with the California Department of Parks and Recreation to determine the suitability of the segment of the South Fork flowing through Andrew Molera State Park because Section 10(e) of the National Wild & Scenic Rivers Act provides for such consultation and cooperation. (PC 2376)

Section 10(e) of the WSR Act refers to rivers that are already in the National Wild and Scenic River System.

The Los Padres National Forest should consult and cooperate with the Department of Defense to jointly determine the eligibility/suitability of rivers within the adjacent federal jurisdictions of the Los Padres National Forest and Fort Hunter Liggett. (PC 2329)

The Nacimiento and San Antonio Rivers were not identified in the Wild and Scenic Rivers Act as study rivers and therefore, we are not directed to prepare a joint river study report. Section 10(e) of the Wild and Scenic Rivers Act allows the federal agency charged with the administration of any component of the National Wild and Scenic Rivers System to enter into written cooperative agreements with the Governor of a State, the head of any State agency, or the appropriate official of a political subdivision of a State for State or local governmental participation in the administration of the component. The States and their political subdivisions shall be encouraged to cooperate in the planning and administration of components of the system which include or adjoin State- or county-owned lands. It does not require the Forest Service to coordinate with or to do joint eligibility/suitability determinations with other Federal agencies. The Nacimiento River was determined not to be eligible for further study. The San Antonio River was determined to be eligible and suitable based on heritage values associated with the Merle Ranch.

The Los Padres National Forest should explain the inconsistencies in its descriptions of the San Antonio River and San Antonio Creek and why the San Antonio River was found eligible but not recommended for Wild and Scenic River designation. (PC 2361)

The determination of eligibility is based on the river being free-flowing and having at least one outstandingly remarkable value. The San Antonio River was determined to be eligible based on its free-flow character and the "outstandingly remarkable" historic and prehistoric values. The suitability study evaluates each eligible river against a number of factors and describes how the recommendation for the river varies in each of the forest plan revision alternatives. In consideration of the suitability factors evaluated as well as the theme and emphasis of each alternative, designation of the San Antonio River was only recommended under Alternative 6.

The San Antonio River is not recommended in the selected alternative (Alternative 4a) of the Los Padres National Forest's forest plan. The national forest is committed to heritage resources management; however, the historic and prehistoric values in the San Antonio River area can be protected by other means and designation of the river might conflict with existing administrative use in the area. Thank you for the suggested correction to change San Antonio Creek to San Antonio River in table 357.

The Los Padres National Forest should consider the impact that the designation of Wild and Scenic River will have on existing uses including a road crossing on Piru Creek. (PC 2387)

Piru Creek between the wilderness boundary and Goldhill Campground is classified as scenic. Within river segments classified as scenic, roads may occasionally bridge the river area and short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or screened railroads could be

allowed. Consideration will be given to the type of use for which roads are constructed and the type of use that will occur in the river area (Forest Service Handbook 1909.12).

The Los Padres National Forest should utilize the federal guidelines definition of "free flowing" to determine the Wild & Scenic eligibility of the Santa Ynez River. (PC 2330)

The DEIS relied on the definition of "free flowing" and additional guidance found in the Wild and Scenic Rivers Act of 1968 (as amended) and in Forest Service Handbook 1909.12, Chapter 8—Wild and Scenic River Evaluation. There are no specific requirements concerning minimum flows for eligible river segments. Flows are considered sufficient for eligibility if they sustain or complement the outstandingly remarkable values for which the river would be designated; however, no "outstandingly remarkable values" were identified for the Santa Ynez River.

Wild and Scenic Rivers, San Bernardino National Forest

The San Bernardino National Forest should be thorough in its Wild and Scenic River designations, including Bear Creek and the Santa Ana River and consideration of Southern California Edison facilities and State regulation of water flow. (PC 2337)

The Forest Service was thorough in its review and evaluation of the Bear Creek and Santa Ana River for potential inclusion into the National Wild and Scenic Rivers System. It was determined that most of Bear Creek and portions of the Santa Ana River have outstandingly remarkable values and are eligible wild and scenic rivers.

Rivers below a dam or impoundment can be considered "free-flowing" because Section 16 the Wild and Scenic Rivers Act, defines a "river" as "a flowing body of water...or portion, section, or tributary thereof..." "Free flowing" is defined as "existing or flowing in natural condition without impoundment..." Therefore, any section of river with flowing water meets the technical definition of free-flowing, even if impounded upstream. Rivers can also be considered free-flowing when the flow is dependent on releases from a dam. Congress and the Secretary of the Interior have designated many river segments that are above or below dams. The response to PC 1079 (Wild and Scenic Rivers) also addresses flows sufficient for eligibility.

When the national forest proceeds with the suitability study for the rivers, this will involve environmental analysis with public involvement to assess whether or not these eligible river segments should be recommended for inclusion in the National System by Congress. Your concerns would be addressed at that time.

The San Bernardino National Forest should consider that there is no need to add yet another layer of protection along Bear Creek. (PC 180)

Congress has added wild and scenic river (WSR) status to rivers flowing through other land use designations. Each designation recognizes distinct values for protection and generally do not conflict. In some cases, WSR designations extend beyond the boundaries of other administrative or Congressional area designations, thereby providing additional protection to the free-flowing character and river values of the area. The eligibility of portions of Bear Creek as a scenic river do not conflict with the State of California Wild Trout Stream designation.

The San Bernardino National Forest should consider the impact that managing either Bear Creek or the Santa Ana River as if they were "study rivers" will have on water supplies. (PC 2364)

Bear Creek and the Santa Ana River in the San Bernardino National Forest have not been designated by an act of Congress as "study rivers" under Section 5(a) of the Wild and Scenic Rivers Act (WSRA). Rather, they are being evaluated through a federal agency-initiated study under Section 5(d)(1), which directs federal agencies to consider the potential of wild and scenic rivers in their planning processes.

The Act requires the protection of water flows and water quality in designated rivers. However, Section 13 (c) states: "Designation of any stream or portion thereof as a national wild, scenic or recreational river area shall not be construed as a reservation of the waters of such streams for purposes other than those specified in this Act, or in quantities greater than necessary to accomplish these purposes."

Existing or future water rights of wild and scenic rivers are addressed in Section 13 (b) of the Act, which states that jurisdiction over waters is determined by established principles of law. Existing, valid water rights are not affected by designation. Alterations to existing irrigation or water withdrawal facilities may be approved under Section 7 of the Act as long as there is no direct and adverse effect to the values for which the river was designated. The valid and existing rights of present land owners to use water and shorelines are not affected.

The San Bernardino National Forest should not allow Wild and Scenic River designation of the Santa Ana River to take away the water use from the cabin owner permittees or motorized fishing access. (PC 2321)

Section 13 (b) of the Wild and Scenic Rivers Act states that jurisdiction over waters is determined by established principles of law. Existing, valid water rights are not affected by designation. Alterations to existing irrigation or water withdrawal facilities may be approved under Section 7 of the Act as long as there is no direct and adverse effect to the values for which the river was designated. The valid and existing rights of present land owners to use water and shorelines are not affected.

The Santa Ana River (13.9 miles from Big Meadow to Filaree Flat) is an eligible Wild and Scenic River with a tentative classification of recreational. It is readily accessible by road and trail and has significant recreation improvements along its shore, including developed recreation sites, recreation residences, and organization camps. Existing motorized access to this segment of the river and to these improvements will not change.

The San Bernardino National Forest should consider the various forks of the Whitewater River as one unit and recommend the North, South, and East Forks Whitewater River for Wild and Scenic River designation. (PC 2347)

A candidate river "segment" is a portion of the river area which has been delineated for evaluation and planning purposes. Segmentation is dependent upon the level of development of the shoreline, watercourse and access. Significantly different levels of development within the river area help define appropriate termini for river segments. In this case, the Forest Service determined that the forks of the Whitewater River be evaluated as different segments.

The San Bernardino National Forest should remove the South and East Forks of the Whitewater River from Wild and Scenic Rivers consideration, and modify the language in the revised forest plan to account for historic water rights and to assure public health and safety. (PC 2362)

Section 5(d)(1) of the Wild and Scenic Rivers Act (WSRA) directs federal agencies to consider the potential of wild and scenic rivers in their planning processes. Segments of the South Fork and the East Fork of the South Fork of the Whitewater River meet the requirements for eligibility as wild and scenic rivers. The San Bernardino National Forest will make recommendations for inclusion to the National System when they complete suitability studies. There will be further analysis and public involvement at that time.

See the response to PC 2321 in this section for a discussion of water rights.

The San Bernardino National Forest should consider the impact that Wild and Scenic Rivers designation will have on water supplies. (PC 2363)

Findings of eligibility or a designation do not affect valid existing water rights or supplies. Section 13 (b) of the Act states that jurisdiction over waters is determined by established principles of law. See also the response to PC 1091(Dams and River or Stream Flow) regarding dam releases into Bear Creek.

The San Bernardino National Forest should consider the North Fork San Jacinto and Fuller Mill Creek together as one hydrologic unit, and should jointly determine the suitability of the North Fork and Fuller Mill Creek in cooperation with the California Department of Parks and Recreation. (PC 2331)

A candidate river "segment" is a portion of the river area which has been delineated for evaluation and planning purposes. Segmentation is dependent upon the level of development of the shoreline, watercourse and access. Significantly different levels of development within the river area help to define appropriate termini for river segments. In this case, the Forest Service determined that the North Fork of the San Jacinto River and Fuller Mill Creek be evaluated as different segments.

The California Department of Parks and Recreation (Mt. San Jacinto State Park) was contacted in October, 2002 for input on the evaluation of the North Fork of the San Jacinto River. The Department has also been on the mailing list through Plan scoping and the draft plan comment period.

The San Bernardino National Forest should clarify the intended management requirements for the North and South Forks of the San Jacinto River, and Strawberry Creek because language in the Draft Plan and the Draft EIS indicate that the rivers would be subject to the requirements of the Wild and Scenic Rivers Act and the Wilderness Act. (PC 893)

The South Fork of the San Jacinto River and Strawberry Creek within the San Bernardino National Forest were determined not to be eligible for wild and scenic river status. Part of the North Fork is in fact in the Mt. San Jacinto Wilderness and subject to the Wilderness Act. The North Fork of the San Jacinto River (9.1 miles from the State Park boundary to the private land diversion) has been determined eligible and is tentatively classified as a recreational river.

Forest Service policy directs that agency-identified eligible rivers be managed to protect their free-flowing condition, outstandingly remarkable values and classification. Given this river was identified for study by the agency (not Congress), protection is not triggered or provided by the WSRA. Rather, the national forest will manage the river pending the outcome of a future suitability study using other existing agency authorities.

The San Bernardino National Forest will make recommendations for inclusion to the National System when they complete suitability studies. There will be further analysis and public involvement at that time. Until then, the management direction in the revised forest plan to protect the eligibility continues. As an agency-identified river, if found nonsuitable, protection of river values would revert to the direction provided in the underlying land use plans for the area.

The San Bernardino National Forest should classify the North Fork as "scenic" from the State Park boundary to approximately 1/2 mile downstream of Highway 243, and then as "wild" to its endpoint, except for a short "scenic" segment to accommodate the motorized use of the Webster Trail. (PC 2377)

The North Fork of the San Jacinto River (9.1 miles from the State Park boundary to the private land diversion) has been determined eligible and is tentatively classified as a recreational river. Appendix A, Part 2 of the revised forest plan has been corrected. Evaluation of this segment found that it is readily accessible by road and trail and has some recreation improvements along its shore (developed recreation sites, cabins). Classifications of river segments made for eligibility determination are tentative, and may be revised during completion of suitability studies.

The San Bernardino National Forest should consider Deep Creek together with Holcomb Creek as one hydrological unit; classify Deep Creek as wild, except for short scenic segments at road crossings; and recommend them for Wild and Scenic Rivers designation. (PC 2348)

A candidate river "segment" is a portion of the river area which has been delineated for evaluation and planning purposes. Segmentation is dependent upon the level of development of the shoreline,

watercourse and access. Significantly different levels of development within the river area help define appropriate termini for river segments. In this case, the Forest Service determined that Deep Creek and Holcomb Creek be evaluated as different segments.

The process used to identify, evaluate and recommend candidate wild and scenic rivers (including Deep Creek and Holcomb Creek) for potential addition to the National Wild and Scenic Rivers System is described in FEIS Appendix E. Wild and Scenic Rivers. Additional direction is contained in the Wild and Scenic Rivers Act of 1968 (as amended) itself and in the Forest Service Handbook 1909.12, Chapter 8 - Wild and Scenic River Evaluation.

Two segments of Deep Creek are eligible for classification as a wild or scenic river. The wild segment (below National Forest System Road 2W01 crossing to the Mojave Reservoir) has outstandingly remarkable values for geology, and is free of impoundments, inaccessible except by trail, and in a primitive watershed with unpolluted waters. The scenic segment of Deep Creek, from below Deep Creek Lake to the 2W01 crossing, is free of impoundments, has a largely undeveloped shoreline, is accessible at several locations by road, and has less than pristine water quality.

The San Bernardino National Forest will make recommendations for inclusion to the National System when they complete suitability studies. There will be further analysis and public involvement at that time.

The San Bernardino National Forest should provide a better range of alternatives in regard to Wild and Scenic Rivers. (PC 2326)

In accordance with the Wild and Scenic River Act, NFMA and Forest Service guidance, rivers found to be eligible (e.g., be free-flowing and have at least one outstandingly remarkable value) do not vary by alternative, except Alternative 1, which reflects current, forest-wide management direction and emphasis.

It is during suitability analysis, the last phase of the Wild and Scenic River study process, when the San Bernardino National Forest will evaluate if the river's free-flowing character, water quality and ORVs should be protected (and consider if one or more other uses are important enough to warrant doing otherwise) and if yes, should protection be through designation or other means? A number of "suitability factors" will be evaluated. Consistent with NEPA, the national forest will consider alternatives for management of the river, include public involvement, and make a decision regarding which eligible rivers to recommend to Congress for designation and at what classification (wild, scenic, recreational).

Recommendations to Congress for additions to the National System of Wild and Scenic Rivers do vary by alternative on the Los Padres National Forest because they prepared their suitability studies as a part of the forest plan revision process.

The San Bernardino National Forest needs to use criteria to evaluate Wild and Scenic Rivers eligibility that does not violate the Administrative Procedures Act. (PC 2325)

The process used to identify, evaluate and recommend candidate wild and scenic rivers for potential addition to the National Wild and Scenic Rivers System is found in FEIS Appendix E. Wild and Scenic Rivers. Additional direction is contained in the Wild and Scenic Rivers Act of 1968 (as amended) and in Forest Service Handbook 1909.12, Chapter 8 - Wild and Scenic River Evaluation. The Administrative Procedures Act is the law under which many federal agencies create the rules and regulations necessary to implement and enforce major legislative acts. It is not violated by this evaluation.

The San Bernardino National Forest should jointly study Palm Canyon with the BLM to determine its Wild and Scenic Rivers suitability and make a recommendation to Congress. (PC 2332)

The Forest Service has in the past and will continue to in the future coordinate with the Bureau of Land Management regarding the wild and scenic river evaluation of Palm Canyon (Creek) through our management of the Santa Rosa and San Jacinto Mountains National Monument. The Palm Canyon evaluation did note the landownership change at the national forest boundary, and has now been strengthened to include the new BLM eligibility information.

The Forest Service should reconsider the impacts of arundo on water quality. (PC 1201)

The effects of arundo on water quality have not been researched but it is widely agreed that it dramatically reduces water quantity. The sentence you cite in the Silverado Place (Cleveland NF) emphasis refers to nonnative species in general and water quality is an issue. To address your comment, we have revised the sentence to: "Remove or limit spread of nonnative species to improve water quality and/or quantity."

The Forest Service should consider that overstocked vegetation is extracting far too much of the annual precipitation. (PC 1202)

Past studies that quantify water loss via transpiration and its effects on groundwater indicate that removing vegetation will not significantly increase groundwater reserves in low precipitation climates like southern California. Vegetative cover is beneficial to slopes, and helps reduce erosion and debris flows (Dan Neary, Rocky Mtn. Research Station, personal communication, 1/12/05). Additionally, Pete Wohlgenuth, Pacific Southwest Research Station, adds that:

- 1) There is no evidence that the vegetation is overstocked. Most of the southern California national forests are covered with chaparral, a native plant community adapted to prolonged summer drought. These plants can survive because they are able to send taproots down to exploit subsurface water. Despite the fire control policies of the last century, chaparral still burns with great regularity;
- 2) Past research on management manipulations of the vegetation, converting chaparral to grasslands, has shown the promise of increased water yield, but at the expense of slope stability and accelerated erosion. Radical ecosystem alterations could always be initiated if water yield was the paramount management priority, but it would probably be at the expense of the biological communities and their habitats that are equally if not more important (Pete Wohlgenuth, personal communication, 1/12/05).

We agree that the issue of water extraction for human use is a potentially explosive issue. The Organic Act of 1897 states that "No national forest shall be established, except to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber." However, we disagree that "the greatest factor affecting the balance of water in the forests today is more directly attributable to overstocked vegetation extracting far too much of the annual precipitation before that moisture can enter groundwater reserves and/or contribute to the maintenance of riparian areas." In southern California, most of the precipitation comes during the winter months when vegetation is undergoing little transpiration, so most of the precipitation enters the aquifers at that time and groundwater recharge occurs. Water supply to riparian areas then continues throughout the year from surface and groundwater flow, and overstocked vegetation could influence the amount of water available to riparian areas and use water from groundwater reserves. There are no current plans to remove vegetation in order to increase groundwater recharge or to contribute more water to the maintenance of riparian areas.

The Forest Service should include remedial revegetation or other mitigations that reduce impacts to water quality standards for ground-disturbing activities in addition to your Best Management Practices. (PC 1203)

During project implementation, water quality is protected through the use of State approved Best Management Practices (BMP), which are referenced in the FEIS bibliography (Appendix K). Revising this handbook is outside the scope of this forest plan revision. The effects of the various alternatives on watershed resources are described in the FEIS, Chapter 3, Effects on Watershed Conditions. Each alternative provides for maintenance of healthy watersheds. The difference between them is the amount of and timing of the work that will be done. Your concerns regarding the need for mitigation in certain

situations can best be addressed at the project level of planning and fall outside the scope of this document.

The Forest Service should designate an additional 41,000 acres of coastal sage scrub habitat as area that cannot be grazed because that could mitigate the threat from increased frequency of fires. (PC 1208)

Please see Chapter 3, Environmental Consequences, Vegetation and Forest Health, Grazing, table 550: Acres Expected to be Grazed by Key Vegetation Types. The maximum reduction of grazing in coastal sage scrub is 30,500 acres in Alternative 6.

The Forest Service should conserve all rare and declining forest habitats, including: montane meadows, oak woodlands and old growth forests. (PC 1209)

We agree. Please see Goal 1.2 – Restoration of Forest Health for a discussion of these and other vegetation types.

The Forest Service should retain 16, rather than 4 to 8, of the largest snags available per acre within Protected Activity Centers (PACs) and home range cores and specify the size of the home range core area. (PC 1215)

We have recently completed the Conservation Strategy for the California Spotted Owl on the national forests of southern California. This document was the result of several years of cooperation with other agencies and scientists and incorporated the most up-to-date information from other areas with similar habitat conditions. Recent research in the Sierra San Pedro Martir and snag densities from literature reviewed in that study indicate that these guidelines are well within the natural range of snag densities in unmanaged pine and mixed conifer habitat (Stephens 2004). The Conservation Strategy specifies a home range core of 600 acres, including the Protected Activity Center of 300 acres. Standard S11 directs the national forests to use the species guidance documents that are listed in Appendix H of Part 3 (Conservation Strategies and Species Accounts) to develop project-specific and activity-specific design criteria.

The Forest Service should develop conservation plans for all plants that are found to be at significant risk. (PC 1217)

The species accounts found in the Reading Room (forest websites and forest plan revision CD) will serve as species guidance documents for all the plants identified as being of conservation concern in the plan revision process. Formal conservation plans/strategies are developed as needs arises. The species accounts contain conservation recommendations that should help protect species in the absence of a formal conservation strategy.

The Forest Service should consider identifying more threatened, endangered and sensitive taxa because several species were not identified, including: shrubs, herbaceous plants, fish, raptors and invertebrates. (PC 1221)

Monitoring efforts are directed toward the identification of trends in taxa that are representative of the condition of many species.

The Forest Service should further discuss the management and the monitoring for rare plant species, including: *Hemizonia mehavensis*, *Acanthomintha ilicifolia*, *Ceanotheus cyaneus*, *Monardella* species, *Cupressus fevesii*, *Limanthes gracilis* and *parishii*. (PC 1226)

Please see the species accounts in the Reading Room for more discussion on conservation needs for species.

The Forest Service should consider using only native plant seeds to rehabilitate fire areas. (PC 1234)

Standard S6 directs the Forest Service to use native seed from locally-collected sources when it is available in the quantities that are needed for revegetation projects, including post-fire rehabilitation. When native seed is not available in sufficient quantities, only non-persistent nonnative species are to be used. See also Strategy FH1, Vegetation Restoration, in Appendix B in Part 2 of the forest plans.

The Forest Service should clarify the need to "reduce/eliminate vegetation of over 10,000 acres for a variety of reasons," reported in the draft ANF Strategy p.12. (PC 1235)

The final plans have clarified where and to what extent this is needed (see table 534: Average Annual Hazardous Fuels Program). Project-specific NEPA analysis is required on all vegetation treatment projects.

The Forest Service should consider that winds and birds are the most probable causes of seed distribution of non-native species. (PC 1259)

It is true that animal species contribute to the spread of non-native invasives; however, humans are primarily responsible for the introduction of the majority of these species.

The Forest Service should allow large trees (> 12 inches diameter) to remain standing if they are not in immediate danger of falling onto a structure, powerline or ingress/egress road within the 400-meter zone of a community. (PC 1261)

We also desire to retain large-diameter trees wherever possible (see the response to PC 2504: Mechanical Thinning (timber harvest)).

The Forest Service should consider the impacts of the drought and the bark beetle on forest health. (PC 1306)

Specific information regarding the effects of the drought and changes in forest structure has been incorporated into the FEIS, Chapter 3, Vegetation Condition and Forest Health.

The Forest Service should include plants in Threat Category 3-5 for survey/inventory/increase knowledge base and monitor/study habitat protection strategies for the San Bernardino and Angeles National Forests. (PC 1415)

Please see Part 2, Appendix B, WL-1 (Threatened, Endangered, Proposed, Candidate and Sensitive Species Management) in the San Bernardino and Angeles National Forest Plans. The strategy component "Implement Priority Conservation Strategies" for each forest plan provides a link to a table that now contains this information. The tables 528 (Angeles NF Conservation Strategy), 529 (Cleveland NF Conservation Strategy), 530 (Los Padres NF Conservation Strategy), and 531 (San Bernardino NF Conservation Strategy) have been updated from the draft plans to reflect the species that the national forests regard as top priority for conservation emphasis over the next three to five years. Changes to the table were based on information in the FEIS and species accounts, along with knowledge of current or proposed activities that may affect particular species. Species not included in this table will continue to be surveyed for and managed as projects are proposed. Occurrences will continue to be mapped, documented, entered into the Forest Service NRIS database, and database forms will continue to be sent to CNNDDB. All four national forests updated their Conservation Strategy Emphasis tables. They can be accessed from the same location as described above in Part 2 of each revised forest plan.

The Forest Service should address the rare plant species or populations that are declining due to public uses and developments of the Antimony and the Sawmill-Badlands Inventoried Roadless Areas on the Los Padres National Forest. (PC 1487)

Please see the species accounts in the Reading Room for detailed discussion of species of concern. General effects on species are discussed in Chapter 3 (Effects on Biological Diversity) of the FEIS.

The Forest Service should implement restrictive limits on hardwood utilization because studies document inadequate regeneration. (PC 2630)

Limits on hardwood utilization and its corollary oak restoration are covered in the following sections: Part 3, Standard S56, Livestock Grazing Utilization Standards, and in Chapter 3, Vegetation Condition and Forest Health, subsection Grazing.

The Forest Service should increase the Forest Health control program. (PC 4062)

The Forest Service increases its program to deal with forest insects and pathogens in response to situations as they arise. For example, the San Bernardino National Forest responded to bark-beetle infestations by treating over 1,000 trees with carbaryl to prevent infestations of trees in campgrounds and administration sites. Please see Part 3, the Affected Environment, Vegetation and Forest Health, subsection Forest Insects and Pathogens.

Invasive and Nonnative Species Management

The Forest Service should communicate to the public that plant community thresholds are being crossed and to return to the earlier state is very costly in terms of money and effort, state that there are huge environmental costs associated with the spread of invasive weeds, and discuss how this problem will be addressed. (PC 149)

Please see the description of Affected Environment for noxious weeds in the FEIS, Chapter 3 (Invasive Nonnative Species). In this section, we describe the irreversible changes that have occurred in grassland and oak savanna/oak woodland plant communities. Please see the southern California national forest's Noxious Weed Strategy in Appendix M of Part 3 of the forest plan.

The Forest Service should manage and eradicate the exotic aquatic species along Sespe Creek because they are rapidly displacing native southern steelhead. (PC 1047)

Please see Part 2 of the Los Padres National Forest revised forest plan including WL 1 and IS 1 in Appendix B for a description of strategies that address this concern. The conservation strategy found in WL 1 specifically identifies treatment of invasive nonnative species in riparian areas as a priority objective. See also Appendix M in Part 3 of the forest plan for the noxious weed strategy for the southern California national forests.

The Forest Service should develop plans for effective control methods for various non-native species and determine which should be highest priority. (PC 1097)

Please also see the National Strategic Goal and Forest Goal 2.1 Invasive Species in Part I of the forest plan which states the Desired Condition and describes how national forests will detect trend changes in acres of invasive species. Strategies are located in Appendix B in Part 2 of the forest plans. Also, see IS 1 Invasive Species Prevention and Control section, and AM 2 Forest-wide Inventory that identify needs for study and research on effects of nonnative species on threatened, endangered, proposed, candidate and sensitive species habitat, and improved methodology for removal of invasive nonnative species (bullfrogs, etc.). WL 1 Threatened, Endangered, Proposed, Candidate and Sensitive Species Management has a link to a table in each forest plan (tables 528: Angeles NF Conservation Strategy, 529: Cleveland NF Conservation Strategy, 530: Los Padres NF Conservation Strategy, and 531: San Bernardino NF Conservation Strategy) showing priority conservation strategies. It identifies control of invasive species for habitat restoration and habitat protection as a priority for endangered species. See also Appendix M in Part 3 of the forest plan for the noxious weed strategy for the southern California national forests.

The Forest Service should measure the extent of damage posed by non-native species on the nation's forests and grasslands against proposed uses in all elements of the plan because invasive species pose a long-term risk and the full extent is not currently known. (PC 1188)

We recognize the threats posed by invasive nonnative species and have developed programs forest by forest to deal with the threats. In this forest plan, emphasis on invasive species management has been evaluated by inclusion of Goal 2.1 in Part 1 of the plan, Strategies in IS 1, Appendix B in Part 2 of the plan, and the inclusion of the Noxious Weed Strategy for the southern California national forests in Appendix M of Part 3 of the forest plan.

The Forest Service should make the control of Mediterranean grasses and factors that increase their invasiveness a top research priority. (PC 1206)

Improved methodology for removal of invasive nonnative species is identified as a need for study and research. Please see AM 2: Forestwide Inventory in Appendix B, Part 2 of each forest plan.

The Forest Service should reevaluate its management plan regarding the control of invasive species to accurately note which species are present or have heavy infestations in the Figueroa-Santa Ynez Place on the Los Padres National Forest. (PC 1242)

The Place descriptions identified some, but not necessarily all, invasive species. Please see Appendix M in Part 3 of the forest plan for additional information.

The Forest Service should consider that if eradicating invasive species is not done with environmental sensitivity and proper education methods, the cost could be greater than the achieved goal, because poorly applied herbicides could have a negative impact, and because not educating people in the urban wilderness interface on managing plants on their property could inhibit a potential contribution from these people. (PC 1244)

We agree that control of invasive species should be done with environmental sensitivity and proper education methods. Please see the Noxious Weed Management Strategy for the four southern California national forests in the FEIS, which is tiered to the regional strategy. The purpose of the southern California strategy is to transform region wide goals and emphasis areas into a three to five year action plan that results in on-the-ground accomplishments. Public education regarding invasive species within the Wildland/Urban Interface is included in this strategy.

The Forest Service should consider continuing to encourage research on the ecology of noxious weed species, with an emphasis on practical application to management. (PC 1245)

Research needs regarding invasive species management are located in AM 2 Forest-wide Inventory, Appendix B in Part 2 of the forest plans. Your suggestion to facilitate research opportunities for invasive species management on National Forest System lands has been added as a strategy in IS 1 Invasive Species Management also located in Appendix B, Part 2 of the forest plans.

The Forest Service should consider treating more lands for noxious weeds because the amount proposed does not keep up with loss of habitat. (PC 1246)

An increased emphasis will be put towards invasive species management now that it has been designated as a national strategic goal. Please see the Noxious Weed Strategy for the four southern California national forests in Part 3 of the forest plan for details regarding strategies, methods and locations that are planned for weed management.

Please also see response to PC 2541 in this section for locations of invasive species management sections throughout the forest plans.

The Forest Service should clarify whether invasive plant removal is permitted in Wilderness Areas and make it a priority in Critical Biological areas because the Angeles National Forest is negatively impacted by invasive species, including the Arundo donax, near important water courses. (PC 1254)

In all alternatives, the invasive species management program emphasis places the highest priority on surveying for early detection in order to control and contain invasive species in riparian areas as well as in threatened and endangered and sensitive species habitat and locations where there is a high potential for rapid rate of spread. Therefore, your concern that riparian areas and Critical Biological zones are emphasized for arundo control are addressed here. Because lands are considered feasible for invasive species removal despite land use zoning or special designation, we did not need to specify that invasive species removal is permitted in wilderness.

The Forest Service should further analyze the impacts of specific nonnative species on habitat for specific listed or candidate species, which roads and trails are likely key contributors to this spread, and which varieties of recreation contributes how much to the spread of these noxious weeds. (PC 1255)

We concur that knowledge of which roads and trails (vectors) are especially conducive for spreading noxious weeds and/or root rot diseases is important; however, that type of planning is done at the site-specific level. The effects of recreation activities on invasive weed management are addressed in the Invasive Species Environmental Consequences section of the FEIS (Effects on Invasive Species). Effects of invasive species on candidate and federally-listed species are analyzed in the species accounts for animals and plants in the Reading Room.

The Forest Service should consider aggressively controlling for invasive exotics by developing a program that involves spraying, handwork, grazing and monitoring. (PC 1256)

We agree that an aggressive program to control invasive species is needed on all the national forests. For detailed information on how we plan to accomplish this, please see the Noxious Weed Management Strategy for the four southern California national forests in Appendix M in the forest plan. See also Goal 2.1 in Part 1 of the forest plans, the Invasive Species program emphasis in Part 2 of the forest plans, and Strategies listed under IS 1 in Appendix B, Part 2 of the forest plans. The Design Criteria and monitoring plan located in Part 3 of the forest plans will also be used.

The Forest Service should consider expanding its cooperation regarding exotic plants through coordination with County Weed Management Areas and dedicating resources to remove pest plants in all Alternatives. (PC 1257)

Coordination with weed management areas was listed as a Strategy in IS 1 in Part 2 of the draft forest plans and has been retained in the final forest plan. The Noxious Weed Management Strategy for the four southern California national forests located in Appendix M in Part 3 of the forest plan also listed the specific weed management areas that the national forests are associated with and lists potential projects known to be needed. In all alternatives, the Invasive Species Program emphasis places the highest priority on surveying for early detection in order to contain and control invasive species in riparian areas, as well as in threatened, endangered, and sensitive species habitat, and locations where there is a high potential for rapid rate of spread. Management flexibility is retained in order to prioritize locations where treatment is needed. This flexibility also allows for joint collaboration and funding opportunities when jurisdictional boundaries are involved.

The Forest Service should address source control issues and geographic considerations in their control strategy for invasive species. (PC 1258)

Source control was addressed in the Invasive Species section of the FEIS. Your suggestion to consider geographical location when removing invasive species has been added to IS 1, Invasive Species strategies in Part 2 of the forest plans. Please also see response to PC 2541 in this section.

The Forest Service should increase the abatement removal of exotic plant species along roadways and riparian areas in the Angeles National Forest. (PC 1489)

We concur that an increase in weed removal along roadways and in riparian areas on the Angeles National Forest (and all southern California national forests) would be beneficial. Please see the Noxious Weed Management Strategy for the four southern California national forests located in Appendix M of Part 3 of the forest plan. Part 1 of the forest plan has been strengthened to incorporate forest Goal 2.1 for Invasive Species Management. This section states the desired condition and describes how national forests will detect and manage for trend changes in acres of invasive species over the life of the plan.

The Forest Service should map and monitor infestation of non-native weeds and set up schedules for removal and/or containment. (PC 1493)

The southern California national forests integrate weed mapping into their management to the greatest extent possible. They also take advantage of opportunities to survey large areas for weeds when possible. The weed surveys and mapping completed after the 2003 wildfires is an example of this. In an effort to facilitate invasive species prevention and removal, the national forests completed a Noxious Weed Management Strategy for the southern California national forests. This was updated and is in Part 3, Appendix M of the revised final forest plan.

The Forest Service should provide firm direction in prevention of weed infestation in the urban wildland interface zones and should incorporate the California Native Plant Society weed management proposals that are not already in the Region 5 weed handbook. (PC 2541)

The national forests share your concern that the high level of ground disturbance within Wildland/Urban Interface Defense zones could introduce or spread invasive species and that the level of ground disturbance anticipated over the long-term could sustain conditions favorable to weeds. This was identified in the Weed Risk Assessment, which was inadvertently left out of the DEIS but is included in the FEIS in Appendix C: Invasive Non-Native Plant and Noxious Weed Risk Assessment. To the reader, it may appear that design criteria in these forest plans are inadequate to prevent and control weeds, especially when one compares these with other recently completed forest plans. However, under the new plan format, Forest Service policy or manual direction are not included as standards in Part 3, as it is assumed that the national forests will follow these directives and other mandates (see Appendix A in Part 3 of the forest plan). This does not lessen the national forests' commitment to prevent the introduction and spread of weeds. For example, the use of weed risk assessments will be included as part of the environmental analysis at the project level where mitigation can be applied to reduce potential for weed introduction and spread. Best Management Practices for vegetation manipulation will be implemented at the project level as will other direction found in Forest Service Manual 2080.

The national forests show commitment to the National Strategic Plan Goal for Invasive Species by including invasive species management actions throughout the final revised forest plan. Part 1 of the forest plan identifies the management challenge of "arresting the spread or eradicating invasive nonnative plant and animal species that displace, prey upon, or otherwise harm native species that live in terrestrial or aquatic habitat". Strategic Goal 2.1 in Part 1 aims to reverse the trend of increasing loss of natural resource values due to invasive species. This goal further states the desired condition, describes how national forests will detect trend changes in acres of invasive species, and identifies communities that are currently affected by invasive species or have a high probability of being affected by future actions based on the Weed Risk Assessment in Appendix C of the FEIS. In Part 2 of the forest plan, tactics associated

with Strategy IS 1, Invasive Species, have been revised with additional direction and a link to the Noxious Weed Management Strategy. The Noxious Weed Management Strategy for the southern California national forests located in Appendix M of the forest plan has been updated as has the Weed Risk Assessment located in Appendix C of the FEIS. In Part 3 of the forest plan there are standards that will reduce chances of weed introduction and spread in disturbed areas within the Wildland/Urban Interface. Standard S6 ensures seed used on National Forest System lands is free of noxious weeds while Standard S37 ensures that fuel treatment areas are designed and managed to minimize risk of use by unauthorized motorized and mechanized vehicles. In addition, Standard S11 requires the use of appropriate guidance during the development of site-specific project-level activities. Also in Part 3 of the forest plan, additional invasive species guidance was added to Appendix A (Laws, Regulations, Agreements and other Management Direction).

The Forest Service should remove tamarisk and replant with natives except in areas where natives are absent or depauperate because nesting and perching sites could be eliminated with no immediate native replacement. (PC 3092)

Prior to removal of invasive species, a project-level environmental analysis is completed. Project timing, the final site plan, and standards that protect federally-listed species are included in the environmental analysis. If federally-listed species would be affected, consultation with U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (NOAA fisheries) will occur. If the proposed action does not adequately protect the species, terms and conditions may then be issued.

Pesticides and Herbicides

The Forest Service should revise table 223 of the Draft EIS to match other sections of the Draft EIS that distinguish between compatible and incompatible herbicides and proper and improper herbicide application. (PC 558)

We have made the necessary changes in the FEIS (see table 223: Potential effects to water quality (from toxins) from management activities).

The Forest Service should research potential natural methods to eradicate bugs with consideration given to sterilization. (PC 1228)

The research branch of the Forest Service has been actively engaged for years in the pursuit of biological agents to control forest insect pests; facilitating research opportunities for invasive nonnative species management on National Forest System lands.

The Forest Service should consider the adverse effects of herbicides on wildlife. (PC 1485)

We have considered the effects of pesticides on the biota, please see FEIS Appendix O. Pesticide Risk Assessment.

The Forest Service should consider the effects of carbaryl spraying because it can weaken trees, making them more susceptible to bark beetle infestations. (PC 1486)

We know of no research indicating carbaryl weakens trees and makes them susceptible to bark beetles. Please see Appendix O. Pesticide Risk Assessment in the FEIS for a discussion of pesticide use and carbaryl.

The Forest Service should consider alternatives to the use of alternatives to pesticide and herbicide as it does not merge with the goal of improving watershed conditions. (PC 1491)

We always consider alternatives to the use of herbicides and pesticides. We think watershed conditions can be maintained indirectly by the judicious use of herbicides. For example, creating a fuelbreak system reduces the risk of high intensity fires entering watersheds at risk. Herbicides are often needed in the first phase of fuelbreak construction but subsequent maintenance can be accomplished using prescribed burning. See FEIS Appendix O. Pesticide Risk Assessment for details on pesticide use.

The Forest Service should remove weed species by hand, if possible, but use herbicides on difficult weeds like arundo (giant reed) or pampas grass (ground/spot application only). (PC 1492)

Thank you for your recommendation. Our historical use of herbicides in the four southern California national forests has been limited and is only used when other eradication methods are not effective. We do not foresee any increase in use. Treatments may include pesticide application if approved through environmental analysis, as noted in Strategy IS-1 in Appendix B of Part 2 of the forest plan (IS-1).

The Forest Service should clarify the requirements for the eradication of weeds/invasive species adjacent to State Routes. (PC 1630)

Site specific environmental analysis is needed prior to any herbicide use along roads in the four southern California national forests. This is addressed at the project level and was not included in the forest plans.

The Forest Service should reconsider the use of chemicals to control noxious weeds. (PC 3091)

See Strategy IS-1 in Appendix B in Part 2 of the forest plan. Site-specific environmental analysis is completed prior to treating noxious weed occurrences. During analysis, the effects of treating areas without the use of chemicals is also considered.

Timber Resource Management

The Forest Service should revise the standard for numbers and size of the hard snags and downed logs to provide for larger snags and down logs. Hazardous snags should be removed. (PC 1211)

Standards S14, 15, and 17 have been modified to be more applicable on the ground and provide for public safety. Ten to fifteen hard snags per five acres appears to be adequate as a minimum based on reviews of other forest plan standards and standards that have been used in southern California over the past 20 years. It also is more representative of the findings of recent research conducted in unmanaged forests in the Sierra San Pedro Martir National Park in Mexico (Stephens, 2004). We have increased the minimum size of snags to 16 inches diameter and 40 feet tall based on wildlife preference. The down log standard in S14--minimum of six logs of minimum 12 inches diameter-- has been modified to a minimum of 120 total linear feet of down logs to be much more manageable. Standard S4 in the San Bernardino Forest Plan Part 2 has also been modified to provide an additional 60 linear feet of down logs in southern rubber boa habitat. Preference is given to larger logs if feasible.

The Forest Service should consider treating slash (the unmerchantable waste left on the ground after a logging operation and community protection) promptly. (PC 1340)

Whenever possible, slash is not left on the ground for any significant period of time. The basis for the statement that slash must be treated within one year is two fold: 1) Slash does represent a significant fire hazard; and 2) The cheapest way to dispose of slash is through prescribed burning.

Prescribed burning of slash piles is normally conducted following winter storms, and it may be up to one year after the tree removal before the conditions are right to safely conduct the prescribed burn.

The Forest Service should find ways to commercially thin trees in an environmentally non-threatening and economically self-supporting manner and clarify fire protection/forest health methodology (e.g., how to and how much to thin). (PC 1432)

The degree of thinning depends on the desired condition for the individual forest or stand. For example, often the objectives are to reduce fuel loading as well as promote the regeneration of selected species. See forest health strategy and tactics in Appendix B in Part 2 of the forest plan. Determining site-specific silvicultural prescriptions is a part of project planning and outside the scope of the forest plan. We agree with you that we need environmentally friendly and ideally economically self-supporting methods of thinning forests.

The Forest Service should not be able to harvest large trees or allow commercial timber harvesting sales and the Forest Service should encourage commercial harvesting and reforest with useable species. (PC 2504)

Forest management emphasizes the retention of large, old trees (see forest plan, Part 1, Strategic Goal 1.2.1). Logging in the form of thinning and salvage treatments will be employed to work toward the desired vegetation conditions described in Part 1 of the forest plan. See also Strategy FH 3, Restoration of Forest Health, in Appendix B of Part 2 of the forest plan. Timber production in itself is not a goal of the forest plan; no land is identified as suitable for timber sale production, and the allowable sale quantity (ASQ) for the forests is zero (see Part 3 of the forest plan, Standard 1). Any timber harvest including removal of large snags (dead trees) will occur to meet other forest plan goals such as community protection. One commenter was concerned about harvest in wilderness. In general, commercial activities are prohibited in designated wilderness unless provided otherwise by legislation. Bear in mind that direction from overarching mandates, such as the Wilderness Act and all other relevant direction (see Appendix A in Part 3 of the forest plan) apply to management of the national forests. This also includes best management practices to reduce erosion or other negative impacts. Reforestation would use forest plan tactics such as use of native plants (often using natural regeneration) and measures against invasive nonnative species.

The Forest Service should promote natural forests rather than reforestation. (PC 2512)

Promoting natural forests is a primary objective outlined in the revised forest plan, Part 1, Fire Regimes I and III. Reforestation can be used to supplement or restore forests that are unlikely to do so naturally.

The Forest Service should plan to thin the existing forest in San Bernardino National Forest and provide effective access to immediately respond to and control future fires. (PC 3047)

Table 534: Average Annual Hazardous Fuels Program shows the proposed vegetative treatment programs for the San Bernardino National Forest.

The Forest Service should keep the aim of logging as needed for fire danger in mind rather than letting greed increase the number of trees cut down for lumber needs. (PC 3997)

The revised forest plan aims for a desired condition of forest restoration including creating forests more resistant to stand-killing crown fires (see forest plan, Part 1, Goal 1.2.1). Strategies to move toward this condition (such as reducing tree densities and fuel loading) are noted in Appendix B in Part 2 of the forest plan. We believe that these emphases meet your concerns about community protection and recreation. The revised forest plans for the southern California national forests do not identify any land as suitable for timber sale production.

The Forest Service should consider leaving the plant life alone that occurs outside of the Wildland/Urban Interface and not allow the timber industry to cut down trees better left alone. (PC 1274)

Mechanical removal of dead trees and other dead vegetation is necessary for community protection. Mortality removal will be conducted within 1.5 miles of threatened communities. While sometimes similar to salvage logging, the term mortality removal also includes the removal of non-merchantable trees and dead shrubs. This issue is discussed in Chapter 3 of the FEIS, Vegetation Condition and Forest Health.

Fuels reduction and removal are not "code words" for letting timber industry cut down trees. The revised forest plans for the four southern California national forests do not have allowable sale quantities for merchantable timber (see Standard S1 in Part 3).

Fuels Reduction

The Forest Service should use biomass reduction rather than type conversion in the Wildland/Urban Interface and incorporate restoration and revegetation with low flammability ecologically appropriate native plants because too large of a buffer is prone to exotic invasions. (PC 1205)

The Forest Service is not advocating large-scale type conversion at the Wildland/Urban Interface (WUI). Each modification of vegetation in the Threat and Defense zones will be subject to project-level NEPA. We are aware of the non-native invasion problem in WUI Defense zones and plan to address the issue on a project by project basis.

The Forest Service should consider that no designation affects forest fuel reduction and maintenance operations due to natural forces or change of conditions (i.e., bark beetle or natural disaster). (PC 1450)

The Forest Service can perform fuels treatment work in all land use designations as appropriate (see forest plan, Part 2, Land Use Zones, Suitable Uses table).

The Forest Service should implement an aggressive strategy for the next 3-5 years for the San Bernardino National Forest because of the current mortality conditions and treatment backlog. (PC 1455)

The San Bernardino National Forest has undertaken an ambitious program to deal with drought-caused mortality. See table 534: Average Annual Hazardous Fuels Program for the details.

The Forest Service should use selective thinning of stems less than 6" dbh to improve forest stand health. (PC 1463)

When forest stands are in need of thinning, the number and size classes of trees to be removed is documented in a prescription by a qualified silviculturalist. Thinning stands of trees in this one size class may not make the highest contribution to stand health, which must be determined on a stand-by-stand basis.

The Forest Service should be mindful of the correlation between increased public access and increased catastrophic wildfires. (PC 1464)

Although management has the option after further analysis to incorporate unclassified roads into the system roads, bringing the current roads system to sustainable levels will remain the focus of attention. It is much more likely that the total miles of roads will be reduced to achieve sustainability than it is that we will see a net increase of road miles. National Forest management has the option to restrict access to the national forest if conditions are unsafe and hazardous through Forest Orders and temporary closures. Vegetation build-up has created these conditions in the past and temporary closures have been put in place. As the demand for access and use of the national forest increases the importance of having this option available to manage the national forest also increases. Community protection is focused on the Wildland/Urban Interface Defense and Threat zones (see Effects on Wildland Fire and Community Protection, effects of recreation use, in Chapter 3 of the FEIS)

The Forest Service should identify where resource production is addressed in the Draft EIS and if production of merchantable timber can be used to accelerate and help offset the costs of fuel reduction efforts. (PC 1465)

The option to utilize timber receipts to offset hazardous fuels reduction is not available on the four southern California national forests because there is a zero allowable sale quantity target. Silvicultural treatments allow national forests to collect funds for slash removal resulting from silvicultural treatments.

Lands (Real Estate)

Public Land Ownership Management

The Forest Service should utilize land management strategies that seek greater cooperation from private landowners who can manage their lands effectively as habitat using proven land management techniques. (PC 2003)

Habitat Linkage Planning (in Appendix B, Part 2 of the forest plan, Strategy Link 1) document the strategy to plan for habitat linkages through not only land acquisition but cooperation with others. This cooperation could include opportunities to ensure that the management of adjacent federal and non-federal land use zones complement each other.

The Forest Service should try to link its lands with other state and county parks. (PC 2006)

Linkage of land is addressed in the forest plan in Part 2, Appendix B, land adjustment strategy Link 1, Habitat Linkage Planning. Some comments suggested linkages to specific lands. Habitat linkage is noted as a management emphasis in some of the Places in each forest plan, some of which are in close proximity to some of the suggested areas. However, identification of specific land adjustment projects is outside the scope of the forest plan.

The Forest Service should change the system it uses to manage acquired lands and consider use of non-profit groups, citizen groups, or retired personnel to lobby for and support acquisitions; or use of legal instruments, such as easement, to utilize private ownership for public use. (PC 2027)

Land acquisition strategies in Part 2 of the forest plan revision include reliance on partners and resources from outside the agency. Please also see response to PC 2001 (Lands Acquisition by Agency).

The Cleveland National Forest should manage its lands and offer recreation opportunities in a way that focuses on protecting ecosystems and natural resources. (PC 2106)

The Cleveland National Forest's commitment to sustainable recreation is highlighted throughout the forest plan. See the Vision statement and Desired Conditions for Public Use and Enjoyment in Part 1; the Public Use and Enjoyment Strategic Program Emphasis and Objectives as well as Strategies and Tactics in Part 2 (including Appendix B); Place-Based Program Emphasis in Part 2; and Standards 34 and 35 and Adaptive Mitigation for Recreation Uses in Part 3, including Appendix D.

The Cleveland National Forest selected alternative (Alternative 4a) emphasizes active management for managed, sustainable recreation settings and uses. It supports the opportunity for a low level of growth of recreation activities with the facilities to support the increased use. This managed sustainable use is compatible with the maintenance of long-term biological diversity and ecological integrity.

Based on public comment, the Back Country Non-Motorized zoning displayed in the draft plan has been refined or expanded in many areas of the Cleveland National Forest, including the Black Mountain/San Dieguito Place. Management intent is to maintain the undeveloped character of land that is presently unroaded.

The Black Canyon Road corridor is zoned for public motorized access. An evaluation and decision regarding the feasibility of reopening the old campground is not within the scope of this analysis.

Valid Existing Rights

The Forest Service should acknowledge the importance and validity of historic water rights, and include measures to protect these entitlements, particularly since they are depended upon for critical community water supply and fire protection. (PC 3664)

It is expected that the revised forest plans will have no effect on existing agreements. All existing agreements, contracts, claims, water rights or permits are valid and are expected to continue. The Forest Service is bound by law and its own policies and direction to always consider existing water uses and

water rights in its planning efforts. This management direction is listed in Appendix A in Part 3 and is not reiterated in the revised forest plan. Concerns regarding specific geographical areas (such as the South and East Forks of the Whitewater River) can best be addressed at the project level of planning and fall outside the scope of this document.

The Forest Service should consider that the Viejas Band reserves the right of access through the Cleveland National Forest to the Capitan Grand Reservation without interruption. (PC 3688)

The Conejos Valley Road (which is currently gated to the public) is available to tribal members and for Forest Service administrative needs. Alternative 4a (selected) shows a Back Country Motorized Use Restricted (BCMUR) corridor along this road. The plan revision will not change tribal access on this or the other three existing roads through the national forest that access the Capitan Grande Reservation. General public access has been restricted, and will continue under the selected alternative.

The Forest Service should reconsider restrictions to activities on the North and South Forks of the San Jacinto River, and on Strawberry Creek. (PC 3708)

The revised forest plans are expected to have no effect on existing agreements. All existing agreements, contracts, claims, water rights or permits are valid and are expected to continue. Part 2 of the forest plan (Special Designation Overlays) lists the North Fork of the San Jacinto as eligible for inclusion in the Wild and Scenic River System. The highest potential classification of the longest stretch of that river is recreation, which is the least restrictive on development of the three classifications (wild, scenic, and recreational) and reflects existing development. The recreation segment of the North Fork of the San Jacinto River is readily accessible by road and trail, and has some recreation improvements along its shore (developed recreation sites, cabins). The segment from the private land diversion to the national forest boundary was not found eligible. Further details about the wild and scenic river eligibility process or determinations may be found in the Reading Room on the forest plan revision website and CD.

Boundary Adjustments

The San Bernardino National Forest should make necessary boundary adjustments and/or urban interface policies that protect mountain communities. (PC 2049)

In response to public comment, the Sugarloaf Inventoried Roadless Area has not been recommended for wilderness designation in the selected alternative of the revised forest plan. The area has been zoned as Back Country Motorized Use Restricted on the north side and Back Country Non-Motorized to the south. Please see the map in the forest plan for the San Bernardino National Forest.

All alternatives (including the selected Alternative 4a) have strategies that support the intent of the National Fire Plan, including the development of community protection plans. The national forests will work collaboratively with communities to develop and implement appropriate measures to support community protection.

The Los Padres National Forest should adjust the western boundary of recommended wilderness along Cherry Canyon to avoid conflicts with the shooting area. (PC 2051)

The Dry Lakes Inventoried Roadless Area is not recommended for wilderness designation in Alternative 4a; therefore, no adjustment is necessary. Part 3 of the forest plan contains standards for resource management. Standard 36 states, "Recreational target shooting will only be allowed in designated areas and ranges." Designation of individual recreational target shooting sites will be based on a subsequent, separate site-specific analysis.

The San Bernardino National Forest should use readily identifiable features and the boundaries described in Alternative 6 to identify Horse Creek Ridge Inventoried Roadless Area boundaries. (PC 2052)

The boundary of the Horse Creek Ridge Inventoried Roadless Area (as shown in Alternatives 3 and 6 maps) is the same boundary used in the Forest Service Roadless Area Conservation EIS, Volume 2, Maps (November 2000). It was not modified by public input.

The Los Padres National Forest should consider adjusting the boundaries of inventoried roadless and undeveloped areas. (PC 2160)

The selected Alternative 4a addresses the areas referenced in these comments in the following manner:

Antimony - the entire roadless area has been zoned as Back Country Motorized Use Restricted. This designation restricts public motorized use of any kind while allowing administrative access. The area is important as habitat linkage to the Wind Wolves wildlife preserve to the north, but other resource management objectives can be met such as vegetation management of the conifers.

Sespe-Frazier - The Fishbowls and Thorn were zoned as Back Country Non-Motorized to protect the south side of the proposed upper Piru Creek Wild and Scenic River.

Chorro Grande and Beaver - Both are zoned Back Country Non-Motorized. Chorro Grande has a corridor of Back Country Motorized Use Restricted to accommodate a private, authorized road to access a mining operation. Access is only by permit. Largely, the entire upper basin of the Sespe River is Back Country Non-Motorized. There are no plans for additional roads in this area beyond existing National Forest System roads and private authorized roads, all of which have corridors for motorized use.

The Angeles National Forest should reconsider the boundaries of the areas to propose as wilderness (including considering adopting the boundaries proposed in Alternative 6); recommend these lands for Wilderness; and acquire certain lands including the Gillette Mine. (PC 2417)

In addition to evaluation of the roadless areas per the national inventory, other undeveloped areas evaluated for wilderness had boundaries as submitted by the public. In the FEIS, areas not part of the Angeles National Forest 1987 roadless area inventory are identified as "Other Undeveloped Areas." The boundaries for recommended wilderness vary to provide the decision maker with a range of alternatives. The location and boundaries of recommended wilderness in the selected alternative reflect changes that were made from Draft to Final. Community input played a significant role in the recommendation. Details regarding recommendations for boundary adjustment may be found in the individual wilderness evaluations, which are available in the Reading Room on the Southern California Forest Plan Revision website. The evaluations reflect any changes made based on public comment.

Though the Salt Creek and Fish Canyon areas of concern referenced by the commenter were evaluated as separate roadless areas, they were combined into one recommended wilderness proposal for the forest plan called the Santa Clarita Canyons undeveloped area. However, it was not selected to go forward as recommended wilderness in the selected alternative. The other area of concern referenced by the commenter is called the Silver Mountain (West Fork) undeveloped area, which was recommended for inclusion by the public and evaluated. The national forest chose not to recommend this area as wilderness or make it part of the West Fork Inventoried Roadless Area.

The revised forest plan describes priorities for land acquisition in Appendix I. However, decisions to pursue individual acquisitions are outside the scope of the forest plan.

The Angeles National Forest should adjust its maps so that the 'cherry stem' of 8W13 (East Fork) ends at the Heaton Flat Campground not nearly to the Sheep Mountain Wilderness boundary. (PC 2418)

Motorized public access stops at the Heaton Flat Campground; however, the selected alternative has 'cherry stemmed' the road the commenter refers to and zoned it Back Country Motorized Use Restricted somewhat beyond the campground, which allows for flexibility in the future to consider administrative access.

The San Bernardino National Forest should adjust its maps to clearly define the locations and boundaries of Cucamonga A, Cucamonga B, and Cucamonga C. (PC 2419)

Roadless areas Cucamonga B and C are separated by Day Canyon. Area "B" is east, Area "C" is west of Day Canyon. The Inventoried Roadless Area evaluation for Cucamonga B and C has been strengthened to better describe the boundaries.

Lands Acquisition by Agency

The Forest Service should acquire land; < and > The Forest Service should not acquire land. (PC 2001)

Land adjustment is a legitimate management strategy for the national forests. Land is adjusted following policy, direction, and criteria described in Part 3 of the forest plan, including legal mandates, Forest Service Manual 5400, and Appendix I. The administrative processes of land adjustment are not affected by the forest plan revision. Land acquisition is an ongoing activity of land adjustment in all the alternatives that is discussed further in the Lands (Real Estate) section of Chapter 3 of the FEIS. The primary focus of the land adjustment strategy is to consolidate National Forest System land where possible for better manageability (see Lands 1, Strategic Acquisition in Part 2, Appendix B).

Several concerns suggested specific geographic areas for land acquisition. In Part 2 of the forest plan, Place-Based Program Emphasis, land adjustment is highlighted in certain Places as a management emphasis. However, addressing site-specific land exchanges is outside the scope of the forest plan. Budget impacts are always considered where practicable as a matter of policy. In some cases, land adjustments are not a local national forest decision. A history of all land exchanges can be found in land ownership status and case files at each Forest Supervisor's Office.

The Forest Service should concentrate on the health and conditions of the land under its direct stewardship rather than spending resources on neighboring state and county jurisdictions to further the concept of linkages. (PC 1116)

Please see the Process for Considering and Analyzing Landscape Linkages in Appendix B of the FEIS. Also see the Biodiversity Sections of the Affected Environment and Environmental Consequences Sections of the FEIS. The national forests have long recognized the importance of the southern California national forests to regional biological diversity. The Southern California Mountains and Foothills Assessment prepared for the Forest Service by Stephenson and Calcarone in 1999 did a good job of documenting this.

The Forest Service has been an active participant in the identification and protection of landscape linkages for many years. The Forest Service is a partner in the South Coast Missing Linkages Project. Maintaining biological diversity and functioning ecosystems are important components of 'Caring for the Land,' one of two major goals of the Forest Service. Failing to provide connections between the national forests and other ownerships would result in the loss of species and natural processes. Many forest species have much of their population off of the national forest. For these reasons, the national forests must be actively involved in planning and conservation efforts on adjacent ownerships if they are to maintain biological diversity and ecosystem health on the national forests. This helps the national forests accomplish Goals 6.2 and 7.1 of Part 1 of the forest plans.

The Forest Service should consider adding meadow, pebble plains and carbonate plant species under Habitat Acquisition within the San Bernardino National Forest. (PC 1418)

These species were added. See the Conservation Strategy Emphasis table under WL-1 Implement priority conservation strategies in Appendix B of Part 2 of the San Bernardino National Forest's forest plan.

The Los Padres National Forest should reconsider acquiring lands in the Big Sur area and outside the boundaries of the forest and revise its land acquisition criteria for land outside existing forest boundaries to provide identifiable limits to the amount of land it can acquire. In addition, the Forest Service should consider the impact that acquisition of such private lands has on the Big Sur community and visitor experience. (PC 2014)

Lands are acquired by the Forest Service to consolidate boundaries or because they contain inherent wildlife habitat, scenic, or other resource values. Forest Service management emphasis in the Big Sur Place is retention of scenic values and preservation of the rural character which indirectly benefits Big Sur communities. See also the Big Sur Place description in Part 2 of the Los Padres National Forest's forest plan. The Place Emphasis for the Big Sur Place has been clarified to identify the anticipated activities for the next three to five years. This emphasis includes the recreation emphasis on adaptive reconstruction of existing facilities with no expansion and on the scenery management emphasis for this area. The acquisition of the Brazil Ranch was accomplished with specially designated funds from Congress. Management emphasis for the Brazil Ranch and the Big Sur Place in general is consistent with the need to preserve the landscape and to limit degradation of user experience from overuse.

The guidance in Appendix I in Part 3 of the revised forest plan regarding priorities for land adjustment is appropriate whether land is inside or outside Congressional boundaries. Land outside the boundaries may be acquired as provided by law (Land and Water Conservation Fund). See also response to PC 2001 in this section.

The San Bernardino National Forest should identify the benefits of land acquisition in the new management plan. (PC 2414)

The discussion for land adjustment by alternative in the FEIS highlights where the program area would be emphasized. This is not intended to exclude the numerous other benefits related to land adjustment displayed elsewhere in the document and the forest plan. The FEIS expands mention of the full benefits of land acquisition (i.e., to protect wilderness areas, secure riparian habitat, improve species protection, add scenic resources, reduce landownership complexity, improve manageability of the forests). Appendix I in Part 3 of the forest plan and strategies for Lands and Habitat Linkage Planning in Part 2 of the forest plan, Appendix B provide overall guidance for land acquisition.

Land Exchanges and Disposal

The Los Padres National Forest should not convey National Forest System lands if the lands contain a sensitive resource or provide public access. (PC 2040)

The phrase "When Justified" has been replaced with "By Exception" (conditions which are not generally compatible with the land use zone but may be appropriate under certain circumstances). Zones with the "By Exception" option for land adjustment allow for adaptive management when needed to accomplish resource program goals and objectives. Land adjustment will still follow policy, direction, and criteria described in FSM 5400 using guidance described in Part 3 of the forest plan, Appendix I-3. Please also see response to PC 2001 (Lands Acquisition by Agency).

The Angeles National Forest should subject sales and transfers of ownership of Forest lands to public review and comment to resist the chipping away of protected forest lands. (PC 2043)

Public notice was given for the revision of the forest plans for the four southern California national forests when the Notice of Intent was published in the Federal Register. Part 2 of the forest plan describes land acquisition strategies for each of the national forests. Criteria for prioritization of land acquisition are

located in Appendix I of Part 3 of the revised forest plan. At the project level, at time of land acquisition, notification of purchase is routinely given to US Senators, local Congressional Representatives, and local County Boards of Supervisors.

Public Use and Enjoyment

Recreation Management, General

Recreation Management, Recreation Opportunities, ROS

The Forest Service should incorporate findings of the National Survey of Recreation and the Environment into their established criteria for distribution of resources to provide for fair distribution of services to the majority of the population and communities, including those with limited resources or English proficiency. (PC 72)

Management direction in the forest plan speaks to the Forest Service's intent for equitable outreach and providing of services. In Part 1 of the forest plan, Strategic Goal 3.1, Managed Recreation in a Natural Setting, the desired condition states that: "Proactive efforts reach both traditional and non-traditional users and lead to a greater citizen understanding, appreciation, advocacy, and participation in forest stewardship and ecosystem conservation." The desired condition is also that "People connect to the land and to each other through expanded public information, interpretive services, and environmental education." This direction is further amplified in Part 2 of the forest plan in the Desired Condition and Program Emphasis sections for each Place. In support of moving towards these goals, various outreach and participation strategies are identified in Part 2 of the forest plan.

In Chapter 3 of the FEIS (Affected Environment, Recreation, Trends and Projections) it is made clear that the NSRE data has not been used to identify activity specific projections but only an approximation for analysis. However, we do expect that recent trends will continue over time based upon changing demographics, evolving technology and available opportunities.

Management intent is to offer a range of environmentally sustainable recreation opportunities on the four southern California national forests to our culturally diverse visitor population, with minimal visitor conflicts and effects to other resources. (See Appendix B, Program Strategies and Tactics, REC 3 – Recreation Participation.) Land use zoning has been used to identify suitable land management activities for each area of the national forest. The zoning identified in the range of alternatives displays various mixes of suitable activities. Based upon comments received, the descriptions of the land use zones have been clarified and expanded. See the general land use zoning response in this appendix or the Land Use Zones section in Part 2 of the forest plan for details on the changes and clarification made to land use zones in response to comment.

Over the life of the forest plan, we intend to monitor if the national forests have provided quality, sustainable recreation opportunities that result in increased visitor satisfaction, and adapt management dependent on findings. (See Part 3 of the Plan, Appendix C, Monitoring Requirements.)

The Forest Service should support the claim that motorized and non-motorized recreational opportunities are well-balanced. (PC 711)

The statement describing the motorized/non-motorized opportunities as balanced was a comparison of the total acres zoned as appropriate for each of these opportunities. The recreation environmental consequences section has been clarified to better explain this analysis. Motorized use includes a much wider spectrum of activities than OHV use, including access to many of the developed campgrounds, picnic sites and vistas that are utilized by much of the recreating public. Conflicts are addressed in Chapter 3 of the FEIS, Facility Operations and Maintenance, Motorized Trails sections, while impacts to resources are addressed in Chapter 3 of the FEIS under the section of the resource being affected.

The Forest Service should clarify contradictory language in the Draft Land Management Plan. (PC 889)

The respondents identify several inconsistencies between different sections of the DEIS. Corrections have been made in the FEIS and clarification has been made. We believe that the three parts of the forest plan complement each other. Your specific concerns regarding motorized and non-motorized trails have been clarified to better illustrate the differences between alternatives. In Alternative 4a, there will be a modest increase in system trails. Maps and zoning have been explained in detail, and the guidelines for maintaining the integrity of the forest resources has been clarified to include multiple resource values.

The Forest Service should re-open recreational shooting areas in Cleveland National Forest. (PC 1707)

In the revised forest plan for the Cleveland National Forest, recreational target shooting is suitable in designated sites only within the Back Country, Back Country Motorized Use Restricted and Back Country Non-Motorized land use zones (see Suitability Table, Part 2 of the forest plan). Currently there are two designated shooting locations on the Cleveland National Forest. See tables 273 (Angeles National Forest Recreational Target Shooting by Alternative), 274 (Cleveland National Forest Recreational Target Shooting by Alternative), 275 (Los Padres National Forest Recreational Target Shooting by Alternative), 276 (San Bernardino National Forest Recreational Target Shooting by Alternative), and 277 (Totals - Recreational Target Shooting by Alternative) in the FEIS, for information about recreational target shooting on the southern California national forests.

The Forest Service should specifically state which roads and trails in each of the four forests are to be designated for motorized vehicles and/or mountain biking, and how trail designations will be enforced. (PC 1714)

Unless otherwise restricted with a Back Country Motorized Use Restricted (BCMUR) zoning or closed by Forest Order, highway licensed vehicles are lawfully present on any National Forest System road open to public use. Unless specifically prohibited, mountain bikes are lawfully present on any National Forest System road or trail, even those that are designated as BCMUR. An example of this type of restriction would be the prohibition of bicycle use on the Pacific Crest Trail or in wilderness areas. Maps that display the various roads and trails and the types of activities they are designated for are available at the local Ranger District or Forest Supervisor's Offices. New designations for off-highway vehicle use or for road closures will require a site-specific NEPA analysis prior to undertaking any proposed action. Enforcement of regulations that affect National Forest System lands are day-to-day operational issues that would be addressed at a local Ranger District level and are outside the scope of the FEIS.

The Forest Service should consider that official maps show no shooting area in the Joe Elliot camp region. (PC 1736)

Joe Elliot camp is in the Lytle Creek Place on the San Bernardino National Forest and there is a concessionaire-operated shooting area within three miles of the camp. Recreational target shooting will be allowed under the forest plan at this concessionaire site.

The Forest Service should provide specific instances where Forest Service approved methods of trail building has degraded meadows. (PC 1774)

Please see the following article that notes "meadow compositional changes have been noted more than 20 feet from the center of the trail."

Cole, David N. 1979. Reducing the impacts of hikers on vegetation: an application of analytical research methods. In: Ittner, R.; Porter, D.; Agee, J.; Anschell, S., eds. Recreational impacts on wildlands; conference proceedings; October 27-29, 1988. Seattle Wa. R-6-001-1979. Portland Or. USDA Forest Service, Pacific Northwest Region: 71-78.

The Forest Service should emphasize reducing user impact on forests, including allowing only foot access to delicate areas and only human powered travel elsewhere and controlling the number of users allowed to a site. (PC 1781)

The zoning maps identify locations for the suitable uses within the national forests. Some of these zones, such as the Critical Biological zone actually discourage human use, others like the Developed Area Interface zone allow for a wider range of uses. The Adaptive Mitigation for Recreation Uses, Appendix D of Part 3 of the forest plan describes appropriate mitigation measures when the sustainability of sensitive resources are at risk.

The Forest Service should adopt an Adaptive Mitigation Protocol for Recreation sites for soil, water, fish and wildlife because uncontrolled recreation has the potential of rendering these resources unsustainable. (PC 1786)

Based upon this excellent suggestion in the comments received, Appendix D, Adaptive Mitigation for Recreation Uses, in Part 3 of the forest plan has been clarified to express the original intent to include any resource that the sustainability is threatened by recreation uses. This mitigation includes applications for soil, water and riparian resources.

The Forest Service should acknowledge the value of the stream-based developed and semi-developed recreational opportunities offered by the San Gabriel River and consider creating backcountry camps and trails in the District. (PC 1788)

The inclusion of the East Fork for further study for designation as wild and scenic river in no way indicates that the national forest does not recognize the value of the remainder of the East Fork, the West Fork or the North Fork as recreation resources. They remain one of the most heavily visited areas of the national forest and they will continue to be the focus of recreation activities within the San Gabriel Place.

The West Fork has been added to the eligible portions of waterways for study as wild and scenic rivers for the Angeles National Forest.

The Forest Service should more closely manage recreational sites in riparian areas. (PC 1791)

The Adaptive Mitigation for Recreation Uses (forest plan, Part 3, Appendix D) was developed specifically to address the mitigation of effects to biological diversity and ecological integrity. The protocol implements a sequence of management actions designed to stabilize these effects and move toward an environmentally sustainable condition. This intent is captured in Part 2, Appendix B, strategy REC 2: Sustainable Use and Environmental Design.

The Forest Service should limit easy recreational access to National Forests to reduce fire risk. (PC 1793)

Management will retain the flexibility to restrict access to the national forest in times of danger to life and property.

Land use zoning is used to display suitable land management activities. Land-use zones have been assigned to all areas of the national forest. Management intent is to supply a balanced range of environmentally sustainable recreation opportunities on the four southern California national forests for visitors of all ages and abilities.

Based upon comments received, the descriptions of the land use zones have been clarified and expanded to include a Back Country Motorized Use Restricted land use zone. The descriptions now better distinguish between motorized access and motorized recreation use on National Forest System trails and roads. The Back Country zone includes areas of the national forest that are generally undeveloped with few roads. Most of the national forest's remote recreation and administrative facilities are found in this zone. The level of human use and infrastructure is generally low to moderate. The zone is managed for motorized public access on designated roads and trails. The Back Country Motorized Use Restricted zone

is managed for non-motorized public access. Motorized use is restricted to administrative purposes only that includes Forest Service, other agency, or tribal government needs, as well as access needed to private land or authorized special-uses. This access is intermittent and generally limited to existing roads or temporary roads needed for resource management purposes. Both of these zones were included in the draft BCM land use zone.

In addition to the descriptions of the land use zones, the map that displays the selected alternative has been clarified to illustrate management intent that much of the former BCM zone would be managed as Back Country Non-Motorized, usually because the steep lands prohibit any development and there is no intent to add new roads or access into these areas. This illustration narrows the Back Country zone to corridors in many locations. Some areas have remained Back Country to illustrate areas where management intent is to provide motorized access on National Forest System roads and trails.

The Forest Service should specifically define “sustainable recreation.” (PC 1799)

Based upon public comments the definition of “sustainable recreation” has been more specifically defined in the FEIS Glossary, Appendix J. Sustainable recreation is the design and maintenance of outdoor recreation facilities and corresponding activities that promote long-term forest health and continue to provide a wide variety of high-quality recreation opportunities for future generations. Broadly speaking sustainable recreation promotes the management of recreation activities to mitigate any effects on biological diversity and ecological integrity. The Adaptive Mitigation for Recreation Uses (forest plan, Appendix D) was designed to address the sequence of management actions that would be undertaken to address these effects. Appendix D has been refined to state that the mitigation measures would be applicable to protect the sustainability of any resource value. Sustainable recreation’s role in each of the alternatives is dependent on the theme of that alternative.

The Forest Service should explain why Alternative 6 would not also incorporate the benefits of increased management to ensure sustainable recreation, in other areas of forests other than immediately threatened ones. (PC 1801)

Included in the FEIS Executive Summary are descriptions of the alternatives. Also, in Chapter 2 of the FEIS there are expanded descriptions of the alternatives. Alternative 4's emphasis on recreation with intensive levels of management control as compared to Alternative 6's emphasis on the protection of biological diversity and ecological function explains the distinction between the two alternatives. It is a distinction on the approach to the issues facing the national forests.

The Forest Service should account for the effects of increased recreational use on imperiled species. (PC 1803)

The respondent is specifically asking about the impacts of expanding recreation facilities to accommodate demand. The expansion of recreation opportunities is contingent upon new public-private partnerships and other funding sources as stated in the FEIS Recreation section. The recreation strategies in Part 2 of the forest plan identify that the emphasis will be on the sustainability of existing recreation uses prior to expansion of new facilities. Appendix D (Adaptive Mitigation for Recreation Uses) identifies a progressive approach to obtaining the sustainability of recreation uses on the national forest.

The Forest Service should consider the effects of motorized and nonmotorized recreation on species-at-risk. (PC 1805)

These effects are discussed in the FEIS Chapter 3, Effects on Biological Diversity.

The Forest Service should protect more habitat area than those immediately affected by recreation because simple recreation restrictions are insufficient. (PC 1806)

We have revised Parts 2 and 3 of the forest plans. Please see Appendix B, WL1 in Part 2, Standards S11 and S34, and Appendix H in Part 3 of the revised forest plans. Also see a description of the selected alternative in Chapter 2 of the FEIS for a description of the expected benefits of habitat improvement.

Please note that S34 requires the use of mitigation “that will effectively mitigate adverse impacts to the species and habitat.”

The Forest Service should recognize the increased adverse affects on elk and mule deer, as well as species at risk, in mechanized and motorized recreation, and anticipated associated road proliferation. (PC 1811)

Effects on game species from recreation is discussed in Chapter 3 of the FEIS, Environmental Consequences, Biological Diversity. Adverse effects will be minimized through the establishment of a designated road and trail system on the national forest. The Adaptive Mitigation for Recreation Uses (Appendix D of Part 2 of the forest plan) further describes steps we will take to obtain the sustainability of resource values.

The Forest Service should consider that increasing recreational areas will in itself increase recreation and associated effects, and also analyze the adverse effects of varying forms of recreation on wildlife. (PC 1815)

Under Alternative 4a (the selected alternative), recreation management will focus on the maintenance or expansion of existing facilities before constructing new facilities. There may be a low level of increase in facilities, including both public and administrative infrastructure, but before any new facilities are built, site-specific environmental analysis will have to occur. The demand for recreation opportunities is anticipated to remain high in all alternatives. The potential impacts of the selected alternative on biological diversity are discussed in the FEIS.

Reaching sustainability within existing recreation uses is the first step of the recreation strategies outlined in Part 2 of the forest plan. Any expansion is also based upon expanded partnerships, funding and support

The land use zoning maps have been updated to better reflect management intent and to better illustrate the areas where motorized use is appropriate. The suitability tables in Part 2 of the forest plan have been clarified, based upon comments received, and better describe the suitability of various activities in each land use zone.

The Forest Service should consider the effects of water recreation on fish eggs and habitat because reservoirs and water recreation can harm fish, their eggs, and habitat. (PC 1818)

Please see the final Environmental Impact Statement, Chapter 3, Environmental Consequences, Effects on Biological Diversity for a description of recreational use impacts on Aquatic Species and Habitat. Please see FEIS Appendix B, General Direct and Indirect Effects to Plants and Animals.

The Forest Service should recognize that only one study to date has compared the impacts of bicycling and hiking and it found equal rates and degrees of trampling of vegetation. (PC 1819)

The Forest Service analysis incorporates users and the effects of the activity based on valid research and conclusions. We do not distinguish between users in a qualitative way (hiking is less impacting than mountain bikes or vice versa). Rather we assess the effect of all of the activities on trails and present the conclusion. Mountain biking and hiking are legitimate uses of National Forest System land.

The Forest Service should address its inability to monitor and mitigate current visitor capacity and protect the forest (including heritage areas) before allowing more visitors. (PC 1838)

Each of the alternatives operates within the constraints of the budget. The distinction is how to utilize that funding. The selected alternative has a focus on intensive recreation management efforts, and provides for the opportunity for a low level of growth in recreation activities and the facilities to support the increased demand.

Based upon comments, the Adaptive Mitigation for Recreation Uses, Appendix D of Part 3 of the forest plan has been clarified to reflect the management intent to apply mitigation when the sustainability of any resource, including heritage resources are in danger.

The Forest Service should clarify plans for the Manzanita Flats shooting area (1N09). (PC 1861)

Table 262: Recreational Target Shooting in the FEIS lists the 1N09 designated shooting area for the San Bernardino National Forest and is specifically discussed in Part 2 of the forest plan in the Front Country Place. The selected alternative does not change the current management of this area, other than to prevent the use of paintball activities.

The Forest Service should detail where and under what conditions target shooting can take place. (PC 1864)

Recreational target shooting is discussed in the FEIS in the recreation section of Chapter 3. Tables 273 (Angeles National Forest Recreational Target Shooting by Alternative), 274 (Cleveland National Forest Recreational Target Shooting by Alternative), 275 (Los Padres National Forest Recreational Target Shooting by Alternative), 276 (San Bernardino National Forest Recreational Target Shooting by Alternative), and 277 (Totals - Recreational Target Shooting by Alternative) display the combination of gun clubs, concession operated, designated areas and open areas for target shooting on the four southern California national forests by alternative. Locations on each national forest that recreational target shooting may occur are included in Alternative 4a (selected alternative). On the Los Padres National Forest, the number of acres available for recreational target shooting has been reduced. Electronic databases that display sites available for shooting are in the project record. The suitability table in Part 2 of the revised forest plan has been clarified to better identify the land use zones where recreational target shooting is appropriate. Additional selection of new sites could occur after site specific analysis.

The Forest Service should allow mountain bike and other non-motorized recreation. (PC 1881)

This respondent is inquiring about the Trabuco IRA. Based on public comment, the Back Country Non-Motorized zoning displayed in Alternative 2 of the draft plan has been refined or expanded in many areas of the Cleveland National Forest in Alternative 4a. The entire Trabuco Inventoried Roadless Area has been zoned Back Country Non-Motorized with the exception of the existing road corridor along the Ortega Highway, and areas where motorized access for community protection, fire suppression, vegetation management, or to access private land or permitted uses already exists. This zoning reflects a continuation of the previous management direction for the area. Mountain biking and other non-motorized recreation is permitted in this zone.

The Forest Service should provide access for recreational dispatch points. (PC 1882)

The analysis process for the determination of trailheads or other “dispatch points” is not made at this level of analysis planning. Those decisions will be made at the project scale and include additional analysis and public input. To review the suitability of each land use zone see the Suitability Table in Part 2 of the forest plan that has been clarified to better display management intent.

The Forest Service should reevaluate the anticipated number of visitors from Los Angeles to Silverado Place. (PC 1886)

The population and demand increases discussed in the recreation section of the FEIS are estimates used for analysis purposes. The increases will not be evenly spread throughout each national forest, although there are anticipated increases in demand in all places.

The Forest Service should not be concerned about off-trail use in the Chiquito Trail area because the area has prolific buckthorn and poison oak. (PC 1894)

In some locations, off-route travel by motorized or mechanized equipment can cause detrimental effects to resources particularly where slopes and lack of vegetative screening may be conducive to off-route travel. As noted by the respondent, in many cases off-route travel is not possible due to topography and the density of vegetation along the trails or roads. However, wildland fire could remove the vegetation that acted as a buffer so off-trail use could become a management concern.

The Forest Service should provide for equestrian and mountain biking in its Strategic Goals 18 plan for “loop hikes.” (PC 1916)

In the Non-motorized Trails section of Chapter 3 of the FEIS, it is stated that “Most of the non-motorized, non-wilderness trail system is managed for shared-use and provides the opportunity for a variety of activities (hiking, mountain biking and horseback riding).” The Desired Condition for non-motorized trails in Part 1 of the draft plan refers to improving the availability of day use “loop hikes.” This refers to all non-motorized trail-based activities. Based upon public comments the wording for this statement has been revised to clarify this intent and the revised statement now reads: “The availability of day use “loop trails” is improved.”

The Forest Service should emphasize user education and mitigation before limiting recreational use of forest trails. (PC 1934)

Appendix D in the forest plan Part 3 has been expanded because of comments received and has guidelines that apply to all existing and new recreation sites and uses whenever a conflict between uses or sensitive resources is detected. Sensitive resources include threatened, endangered, proposed, candidate, and sensitive (TEPCS) species and habitats, riparian habitats, soil and watersheds, heritage resources, user conflicts, or other resources. The management actions will be implemented in the order (education; perimeter control; management presence; redirection of use – if appropriate) listed below unless analysis of the conflict clearly indicates that a stronger measure is immediately necessary. There are many steps that will occur before elimination unless the conflict is severe and closure is the only option to reduce the conflict.

The Forest Service should reevaluate its language regarding off-road motorized use in documentation because the terms and language used in documentation favor motorized use. (PC 1944)

Land use zoning is used to display suitable land management activities. Land use zones have been assigned to all areas of the national forest. Management intent is to supply a balanced range of environmentally sustainable recreation opportunities on the four southern California national forests for visitors of all ages and abilities.

Based upon comments received in response to the draft plans and EIS, the descriptions of the land use zones have been clarified and expanded to include a Back Country Motorized Use Restricted land use zone. The descriptions now better distinguish between motorized access and motorized recreation use on National Forest System trails and roads. The Back Country zone includes areas of the national forest that are generally undeveloped with few roads. Most of the national forest’s remote recreation and administrative facilities are found in this zone. The level of human use and infrastructure is generally low to moderate. The zone is managed for motorized public access on designated roads and trails. The Back Country Motorized Use Restricted zone is managed for non-motorized public access. Motorized use is restricted to administrative purposes only that includes Forest Service, other agency, or tribal government needs, as well as access needed to private land or authorized special-uses. This access is intermittent and generally limited to existing roads or temporary roads needed for resource management purposes. Both of these zones were included in the draft BCM land use zone.

In addition to the descriptions of the land use zones, the map that displays the selected alternative has been clarified to illustrate management intent that much of the former BCM zone would be managed as Back Country Non-Motorized, usually because the steep lands prohibit any development and there is no intent to add new roads or access into these areas. This illustration narrows the Back Country zone to corridors in many locations. Some areas have remained Back Country to illustrate areas where management intent is to provide additional motorized access on National Forest System roads.

The discussion of the off-highway vehicle activity is an accurate description of the difficulties that can be encountered when the activity is not managed well, the effects that could be expected under each

alternative with the changes in use levels, and does not advocate the promotion of motorized uses; in this case, off-highway vehicle use, at the expense of other activities. All forms of recreational use can have adverse effects on resources if not carefully managed. The selected alternative was developed in response to public comment with the intent to more fully take into account where other forms of recreation may continue to occur, emphasize the protection of resources, and more clearly display where motorized activities would be occurring.

The Forest Service should allow forest access to motorcyclists but not in areas that are not now designated for motorcycle use. (PC 1945)

The selected alternative restricts motorcycle use to roads and some trails that are designated for motorized use and the limited open areas on the Cleveland and Angeles National Forests. Non-highway licensed motorcycles are further restricted to a designated route system which for all four southern California national forests is much smaller in size than the National Forest System road and trail networks.

The Forest Service should address trail user conflicts, including considering the management strategies of not allowing off-road use on the same trails as equestrian and/or hiking use, education, peer-patrolling and/or alternating days. (PC 1958)

Off-highway vehicle use may only occur on roads, trails or areas designated for that use. Land use zoning is used to define suitable activities such as motorized use, non-motorized use, and motorized access for administrative and permitted use. In general, hiking and equestrian use are suitable in all zones. Mechanical forms of transport (i.e., mountain bikes) in designated wilderness are prohibited by the Wilderness Act of 1964.

Management intent is to supply safe, environmentally sustainable non-motorized trail-based opportunities on official National Forest System trails. Desired Conditions under Transportation Systems, Non-motorized Trails in Part 1; and the Program Strategies and Tactics for Transportation Systems, in Part 2 address the Agency's commitment to shared-use trails that support environmentally sustainable recreation.

The Forest Service should explain how conflicts between increasing numbers of motorized users and non-motorized users of newly reclassified roads or trails will be mitigated. (PC 1962)

Conflicts between users of the trails and roads will be resolved at the project level. Where specific conflicts are identified, methods such as managing for some uses and not others, limiting the timing of certain uses, and managing the design of trails might be utilized.

Based upon comments received, the Adaptive Mitigation for Recreation Uses, Appendix D of Part 3 of the forest plan, has been expanded to include mitigation of user conflicts. The recreation strategies in Part 2 of the forest plan identify how these measures are triggered whenever the sustainability of the resource is threatened and detected.

The Forest Service should reevaluate and support with valid research the alleged recreational use impacts on threatened, endangered and sensitive species as well as consider mitigation. (PC 4594)

We have included more references regarding recreation effects on biodiversity in the Affected Environment and Environmental Consequences of Chapter 3 in the FEIS. We have also added references in Appendix B of the FEIS. Several of the references used are compilations of many peer reviewed studies. There is a growing body of research which documents the effects of recreation use on wildlife and wildlands. One of the best is *Wildlife and Recreation: Coexistence Through Management and Research* by Richard L. Knight and Kevin J. Gutzwiller, 1995. This book documents numerous studies regarding effects on species and populations and discusses the role of education programs. Although education can help, it cannot eliminate the effects of recreation use. Another publication, "Effects of Nonconsumptive Recreation on Wildlife: A Review" by Stephen A. Boyle and Fred Samson in the *Wildlife Society Bulletin*, 1985 documented the results of 166 articles containing original data. Results of this research have been used to complete the FEIS.

The Forest Service should provide a strategy to minimize conflicts between mountain bicyclists, hikers, and equestrian users. (PC 5020)

Based upon comments received, Appendix D, Adaptive Mitigation for Recreation Uses, in Part 3 of the forest plan has been expanded to include measures to resolve user conflicts.

Summer or year-round (incl. OHV, 4-wheel)

The Forest Service should consider the ramifications of Executive Order 11989 of 1977 because it calls for closure of off-road vehicle access when such access damages public land. (PC 4562)

Executive Order (EO) 11644 (as amended by EO 11989) requires that national forests identify where the off-road vehicle activity can occur through the "designation of the specific areas and trails on public lands on which the use of off-road vehicles may be permitted, and areas in which the use of off-road vehicles may not be permitted" (Sec. 3(a)). In accordance with the promulgation of regulation required by the executive order (36 CFR 295), the four southern California national forests implemented this direction by developing forest-wide off-road vehicle (ORV) plans. This direction continued to evolve with subsequent updates of these plans, culminating in the current direction found in each national forest's land management plan. In addition to this direction for ORV use, each national forest also designated National Forest System roads that were open to use by vehicles registered as off-highway vehicles (OHV) in accordance with State vehicle registration requirements. With the plan revision process, these areas, trails, and roads designated for OHV use have carried forward without deletion or addition from the existing condition presented in the proposed action. The final revised forest plans reemphasize the direction of EO 11989 by identifying land use zones where motorized activities may or may not occur. With the exception of the few small open areas on the Cleveland and Angeles National Forests, all motorized use (both highway licensed and non-highway licensed) is restricted to roads and to designated motorized trails. All vehicles registered as an off-highway vehicle in accordance with State law are further restricted to a smaller subset of the National Forest System roads and trails that are designated for OHV use.

As noted by the respondent, Sec. 9 of EO 11989 (through application of §295.5) gives a national forest the ability and the responsibility to close areas or trails to off-road use "If the results of monitoring, including public input, indicate that the use of one or more vehicle types off roads is causing or will cause considerable adverse effects on the factors and resource values referred to in 36 CFR 295.2, the area or trail suffering adverse effects will be immediately closed to the responsible vehicle type or types until the adverse effects have been eliminated and measures have been implemented to prevent future recurrence as provided in 36 CFR part 261." §295.5 not only implicitly states that a national forest has the authority to immediately close an area or trail, or close it to a particular vehicle type, it also infers that after remedy has been effected, use can then reoccur because the elements that produce a citable offense identified under §261 are no longer present.

The respondent contends that it is unacceptable to develop additional OHV opportunities that would address operational deficiencies found in the existing condition because of difficulties the national forests may have with managing the current state of the OHV systems (i.e., levels of use are greater than can be managed (common viewpoint from many of the responses received), resource issues are not being addressed, or that staffing levels are insufficient to effectively administer and enforce OHV regulations). These are day-to-day operational issues that are best addressed at a District or Forest level and are outside the scope of the FEIS. This does not nullify the strategy presented under the preferred alternative or as modified by the selected alternative for the management of the activity. Identification of components of a national forest's OHV system where use is causing unacceptable impacts to national forest resources or creating conflicts with other uses of the national forest are site-specific issues that would require a site-specific NEPA analysis to remedy and are outside the scope of the FEIS. The ability to "immediately close" an area or trail remains available to Forest Supervisors or District Rangers, but when this step is taken it would trigger a site-specific NEPA analysis in order to proceed with a remedy or to effect a

permanent closure of the area in question and comes with the added impetus to retain the recreational opportunity in an acceptable format in accordance with §219.21(a), (b), and (c).

The Forest Service should consider the cost differences for development of trails and facilities between motorized and non-motorized recreation. (PC 4994)

The analysis of recreation programs for this forest plan focused on providing a balanced program. At the project level planning additional factors would enter into the analysis, including the cost benefit and availability of funding.

The Forest Service should not designate an OHV trail where it can be traversed by a conventional two-wheel vehicle. (PC 5016)

Under most circumstances it is highly desirable to provide trails that are designed for the type of vehicle that they are intended for (e.g., an all-terrain vehicle or motorcycle). Under some conditions, it may be necessary to designate maintenance level 2 or 3 roads for OHV use, such as providing a linkage between disconnected OHV systems. Maintenance level 3 roads are managed for high clearance, passenger car traffic and are not suitable for designation for use by off-highway vehicles under most circumstances. Maintenance level 2 roads are managed for high clearance vehicles, such as four-wheel drive pick up trucks or sport utility vehicles and can be designated for use by OHV traffic if a site-specific analysis supports the need to do this.

The Forest Service should address how it will provide adequate opportunities for OHV use when it closes routes. (PC 5017)

Opportunities to provide replacement OHV routes will be considered as part of the proposed action whenever a route closure is undertaken. This type of action is site-specific and outside the scope of the FEIS.

The Forest Service should redo the viability outcomes analysis for OHV use and route proliferation. (PC 5023)

The viability analysis for species have been adjusted to reflect the changes in land use zoning in the selected alternative. A large area of the national forests are now zoned for non-motorized uses or for administrative access only and this will affect the species viability determinations. Refer to table 333: (Comparison of Alternative Acres by Land Use Zone) for a comparison of the land use zoning changes between the alternatives for each national forest. In land use zones that are retained in a motorized status (e.g., Back Country (BC) and Developed Area Interface (DAI)), OHV use is restricted to roads and trails that are designated for this use. The ability to address the unclassified road and trail systems is left to the individual Forest/Ranger Districts for resolution under their annual program of work and is outside the scope of the FEIS. Law enforcement staffing and enforcement of regulations that affect National Forest System lands are day-to-day operational issues that would be addressed at a local Ranger District level and are also outside the scope of the FEIS.

Permitting

The Forest Service should change criteria to permit continuation of walk-in cabins. (PC 492)

Existing authorized recreation residences, regardless of access, on National Forest System land are continued in all the alternatives of the FEIS. The administrative processes used for the management of recreation residence tracts are not affected by the revised forest plan. For improved safety to the public, emergency officials, authorization holders, and their guests, proposals to re-build recreation residences on the national forests will be in locations with ready access for emergency personnel and equipment. Holders of valid Recreation Residence Authorizations may be offered in-lieu lots in qualifying areas (see Standard 41 in Part 3 of the forest plan).

The Forest Service should add the following to Standard 41: "If analysis reveals that the recreation residences can not be safely occupied or rebuilt, the authorized officer may offer an in-lieu lot to permit holder to move or rebuild the improvements. The permit holder shall remove within a reasonable time all structures and improvements from the permit area except those owned by the government." (PC 493)

Based on public comments, recreation residence tracts with approved recreation residences have been identified as "Other Designations" in Part 2 of the revised forest plans. Recreation Residences Standard 41 in Part 3 of the forest plan has been modified to omit reiterations of policy and stipulations of the permit and offer in-lieu lots to holders of valid recreation residence authorizations in certain circumstances.

The Forest Service should consider that the Plan Revision not providing for in-lieu lots in any of the four national forests or in any of the other four adjacent national forests is a policy to eliminate term special-use permits for recreation residences in Region 5, which violates both the Multiple Use Sustained Yield Act and Cabin User Fee Fairness Act. (PC 496)

The revised forest plans continue all existing recreation residence special-use authorizations in all the alternatives. Standards S40 and S41 in Part 3 of the forest plan are specific to the management of recreation residences, including provisions for in lieu lots. The revised forest plan includes the analysis described and the consequences disclosed in the Final Environmental Impact Statement. The environmental analysis described in that document is consistent with the requirement of the 1982 Planning Regulation 36 CFR 219. The revised forest plan has no effect on the administrative processes in place for the management of special-use permits for recreation residences. Administrative procedures including the Compliance Review and Consistency Determination process are not affected by the implementation of the revised forest plan. The revised forest plan manages for multiple uses as per the Multiple Use Sustained Yield Act. The forest plan has no effect on any law that is in place that effects the management of public lands administered by the Department of Agriculture. Appendix A in Part 3 of the forest plan includes a list of most, if not all, of the applicable laws. The revised forest plan will not eliminate term special-use permits for recreation residences throughout Region 5.

The Forest Service should limit the number of users in a high use area at one time by permit, in the same way that wilderness permits control wilderness access if the demand for trail riding exceeds capacity. (PC 499)

Based upon comments received, Appendix D in the forest plan (Adaptive Mitigation for Recreation Uses) has been expanded to include mitigation for user conflicts, including overcrowding. One of the steps to reduce conflicts and impacts to resources is to manage the number of people allowed at one time.

The Forest Service should provide tract maps concerning how the forest plan will affect permittees. (PC 3511)

A listing of the recreation residence tracts by name for each national forest will be included under Special Designations in Part 2 of the revised forest plan. After the Compliance Review and Consistency Determination and NEPA processes, we will update the tract list with individual cabins as an update to the forest plans (and amend plan if necessary).

The Forest Service should modify special-use permit language to read, "Compliance with all present and future federal, state, county and municipal laws, ordinances, or regulations which are applicable to the area of operations." (PC 3513)

Based on public comments, Recreation Residences Standard 41 has been modified to omit reiterations of policy and stipulations of the permit and to offer in-lieu lots for holders of valid recreation residence authorizations in certain circumstances.

The Forest Service should consider recommendations of the California Forest Homeowners regarding the replacement of term permits. (PC 3742)

The revised plan has no effect on the administrative processes in place for the management of special-use permits for recreation residences. Administrative processes including the Compliance Review and Consistency Determination process are not affected by the implementation of the revised forest plan.

The Forest Service should clarify the impacts of the effects of the alternatives on recreation residences. (PC 3783)

All recreation residence tracts with existing authorized recreation residences remain suitable for recreation residence occupancy in each alternative, even though the land use zones vary by alternative. Also, the administrative procedures used for the management of recreation residences remain the same in every alternative.

The Forest Service should consider the fair and equitable use of water for cabin owners including: 1) do not limit water use for protection of the three spined stickleback; 2) consider the possible adverse consequences of a ban on stream pick-up systems; and 3) reconsider the designation of virtually all riparian areas as Riparian Conservation Areas in consideration of the implied obligation to recreation residence permit holders. (PC 3655)

The revised forest plan has no effect on the administrative processes in place for the management of special-use permits for recreation residences. It also has no effect on any law that is in place that affects the management of public lands administered by the Department of Agriculture. Part 3 of the forest plan includes a list of most, if not all, of the applicable laws. The Forest Service has the authority under the National Forest Management Act to limit water resource use in national forests to manage conflicting uses of national forest resources.

The Forest Service should reconsider its treatment of summer homeowners. (PC 3517)

We agree that productive relationships and problem solving are key elements to the success of the land management plan. Constructive dialog, cooperation and balanced solutions to problems are an integral part of the forest plan. Community Participation sections of the FEIS identify the reliance on strong communication strategies.

Developed Recreation

The Forest Service should use recreational facilities--such as campgrounds and parking lots--to manage recreational impact on species-at-risk. (PC 1986)

Appendix D of the forest plan provides guidance on progressive mitigation measures to protect resources at risk within recreation sites. In addition to these measures, there are several standards in the revised forest plan designed to protect threatened, endangered, proposed, candidate and sensitive species.

The Forest Service should not prohibit all camping and travel to designated areas and trails. (PC 4501)

Standard 35, Part 3, Fish and Wildlife expresses management intent to discourage camping or other recreation activities within sensitive habitat areas, especially in riparian areas. This standard is not intended to prohibit camping or trail use on any designated site or trail. Conservation education efforts will highlight the importance of maintaining this setting and help lead to sustainable resources. Each of the alternatives considered will operate under the same funding levels, the distinction is on the land use zoning and the emphasis of each alternative.

Dispersed Recreation

Camping (Dispersed)

The Forest Service should provide a copy of the study which indicates that overuse at remote campsites have serious consequences to other resources. (PC 347)

Please see Final Environmental Impact Statement, Chapter 3, Environmental Consequences, Surface Water and Riparian Ecosystems and Biological Diversity sections regarding impacts to the environment from a suite of activities and the associated effects to water quality, soils, riparian dependent species, and terrestrial plants and animals. Also please see Appendix B in the FEIS. We have included a number of references in the EIS which document known impacts to aquatic and terrestrial ecosystems from recreation. One of the best, most thorough discussions of recreation effects on wildlands can be found in *Wildlife and Recreationists: Coexistence Through Management and Research* by Richard L. Knight and Kevin Gutzwiller. Generally speaking, individual or small group remote camping would be expected to have a minor effect on most resources. However, throughout southern California we have experienced resource degradation at some remote campsites where the use is at isolated wildlife water sources; frequently group sizes are large, and impacts occur especially where vehicles have driven cross-country, off system roads, to get to these favored sites. Resource damage has a lot to do with the location, timing, magnitude and duration of the use. The theme of the selected alternative is managed, sustainable recreation and management of threatened, endangered and sensitive species. Utilizing best management practices (BMPs), and the standards found in Part 3 of the final forest plan, especially Appendix D (Adaptive Mitigation for Recreation Uses), resource impacts from recreation uses are expected to be identified and mitigated fairly quickly. In Part 2 of the forest plan, each national forest identifies specific strategies to move toward their desired conditions. In each Place description, emphasis is given over the next three to five years to management actions that will correct uses that are causing resource damage.

The Forest Service should explain why primitive camping is prohibited. (PC 349)

Primitive, dispersed camping is available for the vast majority of national forest areas. On the Cleveland National Forest, a camping permit is required for overnight dispersed camping and dispersed camping is prohibited on the Trabuco Ranger District outside the San Mateo Canyon Wilderness. The restrictions on the Trabuco Ranger District reflect current Forest Orders set in place because of the fire risk, proximity to urban areas and to protect human lives.

The Forest Service should list the four equestrian campgrounds by name and location, and the criteria by which a campground is considered an equestrian campground. (PC 350)

An equestrian campground is an overnight facility that offers support for equestrian use such as corrals, water or other services, along with camping facilities. The information in table 104: (Major Developed Recreation Sites Capacity) reflects the total PAOTs (people at one time) for a broad range of developed recreation facilities and was not intended to be a comprehensive listing of each facility. Please contact the national forests directly for specific information on facilities.

Hunting and Fishing

The Forest Service should address the effects of lead poisoning of California condors in the Environmental Impact Statement. (PC 336)

Please see WL1 in Appendix B of Part 2 of the revised forest plans for a strategy that addresses lead poisoning and species protection. See the species account for the California condor in the Reading Room for a description of the effects of lead poisoning. Please see the biological assessment for the revised forest plans for additional analysis of the effects of lead poisoning on the California condor. See also Appendix B in the FEIS for the impacts of hunting and shooting on wildlife. Regulation on the types of ammunition used in hunting is beyond the scope of this analysis and is regulated by the California Department of Fish and Game. The Forest Service is cooperating with the Department in efforts to reduce

lead poisoning of condors. The Los Padres National Forest is handing out educational materials in an attempt to influence hunter use of lead bullets and shot.

Rock Climbing

The Forest Service should remove or consider removing the proposed ban on new fixed anchors for rock climbing. (PC 366)

In light of the many public comments received as well as additional analysis and coordination by the Forest Service, the San Bernardino National Forest Wilderness Standard S-10 in Part 2 of the draft forest plan revision, page SBNF Strategy-72 “No new fixed anchors for rock climbing are allowed” has been dropped from the final forest plan. It is now our intention to tier to forthcoming Forest Service fixed anchor national direction through the final forest plan revision, Part 3, Appendix A – Laws, Policies and Other Direction, as expected in Forest Service Manual 2320, Wilderness Management. Also, it is recognized that preparation of a climbing plan by the San Jacinto Ranger District for the rock climbing area near Idyllwild is eventually needed, to be developed with input from partners in the climbing community. This plan would address all aspects of climbing management and resource protection.

Equestrian

The Forest Service should provide the copies of, or meaningful access to, any studies which have been used to conclude that horses pose a risk of polluting riparian habitat. (PC 355)

It is the repeated use of riparian areas that pose a threat to the ecosystems along waterways. Equestrian uses pose even more of a threat when repeated at the same locations within riparian areas. The use of National Forest System trails do not pose a threat when they are designed to withstand use and remain sustainable. For reference to impacts of recreation on wildlife habitat refer to the following book: *Wildlife and Recreation: Coexistence Through Management and Research* by Richard L. Knight and Kevin J. Gutzwiller, 1995.

The Forest Service should cite specific instances and/or list the studies that humans and pack stock are the primary vectors of nonnative plant seed within wilderness. (PC 358)

The reference to humans and pack stock being the primary vectors of nonnative plant seed in wilderness has been removed.

Conservation Education, Volunteers and Partnerships

Environmental Education

The Forest Service should adopt comprehensive, inclusive public education and outreach efforts. (PC 58)

Strategic Goal 3.1 in Part 1 of the forest plan includes conservation education and proactive outreach to both traditional and nontraditional users as key efforts towards the goal to provide for public use and natural resource protection. In response to comment, it is clarified that the Forest Service intends to use learning about our diverse visitors and communities to adapt and improve service delivery. In Part 2, the Program Emphasis and Objectives section addresses community outreach, while the REC 4 strategy (conservation education) in Appendix B stresses building environmental stewardship and conservation education partnerships and emphasizing the capability of field program and project delivery, especially to underserved populations.

The Forest Service values acknowledges and addresses southern California's diverse population and differences in use patterns, perceptions of the environment and recreation activities enjoyed in Chapter 3 and FEIS Appendix L. Visitor Use and Participation (NVUM).

As described in Chapter 1 of the FEIS, the Forest Service has made efforts to reach out to the public in this forest plan revision. Posting or distributing information at sites in the field was one means of outreach to users who might not otherwise become involved in planning.

Equal opportunity in hiring and contracts is in place but is outside the scope of the forest plan revision. Providing transit to the national forests is generally outside the scope of the forest plan.

The Forest Service should provide education exchange to rights-of-way holders on Forest Service lands about sensitive species to avoid future listings. (PC 237)

Many special-use permits were issued in the past and are retained in threatened, endangered, proposed, candidate and sensitive species habitats across all the national forests. In an effort to reduce effects from maintenance activities, Strategy Lands 2 includes tactics regarding permit administration and use of barriers, signs and other measures; and providing information and education. See Part 2 Appendix B.

The Forest Service should use its limited resources to educate the public to the value of nature. (PC 443)

This forest plan is a strategic document and does not go into the level of detail of previous planning efforts but rather better provides a living document that provides the direction and desired conditions that each national forest will develop further at the project level. In Part 2 of the forest plan, the program strategies for recreation and the Place emphasis describe the intent of the recreation program and the specific actions anticipated for the next 5+ years for each Place. The Land Use Zone descriptions have been refined to better explain where activities are appropriate and this is again reflected in the Theme for each Place in Part 2 of the forest plan.

Land use zoning is used to display suitable land management activities. Land use zones have been assigned to all areas of the national forest. Management intent is to supply a balanced range of environmentally sustainable recreation opportunities on the four southern California national forests for visitors of all ages and abilities. Program emphasis for each zone type varies from primitive and unconfined recreation which may require high skill and self-reliance, to highly developed recreation sites for camping and picnicking and motorized touring.

In Part 2 of the draft plan, pp LPNF Strategy-18, under the topic of Conservation Education, the emphasis of the program is stated as "Conservation education imparts knowledge about Forest Service mission and policy, environmental features of interest, and behaviors that preserve and respect the environment."

The Forest Service should provide education and enforcement as is necessary to bicyclists because they need to be informed about how to ride responsibly and about trail riding ethics. (PC 463)

Appendix D - Adaptive Mitigation for Recreation Uses, in Part 3 of the final forest plan has been expanded and addresses the protocol for resolving user conflicts as well as preventing resource damage by recreation use. Conservation education is a main tool in the adaptive process.

The Forest Service should consider developing and implementing a watershed public education program for the Los Padres National Forest. (PC 1003)

Each national forest develops their own environmental education programs. They also cooperate with other agencies and groups in preparing and presenting environmental and watershed education programs. Many of these activities are described under the Conservation Education program discussion in Parts 1 through 3 of the forest plans. More specific information about these various programs can be found by contacting the national forests.

The Forest Service should educate people about the reproduction and conservation of trees, and prohibit businesses and factories from dumping chemical contaminants that contribute to the deterioration of the atmosphere. (PC 2522)

Teaching people the value of trees is always something we encourage. We stress conservation education in the forest plan (see Part 2, Appendix B, Program Strategies and Tactics, REC 4: Conservation Education). The prohibition request is outside the scope of the forest plan revision.

Volunteers

The Forest Service should not rely on volunteers and grant money in the long-term implementation of the Forest Plan. (PC 248)

The use of partnerships, volunteers and grants helps to further Agency goals in a more efficient manner. However, all alternatives are designed to be able to be implemented using a constrained budget based on current trends.

Landscape and Scenery Management

The Forest Service should clarify how scenic resource responsibility will affect the review process for site-specific projects. (PC 151)

An environmental analysis is conducted when a project is proposed. At that time, the project's effects on the scenic resources are assessed. The project should meet the Scenic Integrity Objectives (SIOs) as defined in the revised forest plan. Some allowances for underachieving the SIOs are defined in the Aesthetic Management Standards of the forest plan, Part 3.

The Angeles National Forest should consider the negative impact that scenic integrity objectives can have. (PC 2113)

Six scenic integrity objectives have been established, derived from the landscape's attractiveness and the public's expectations or concerns. Generally, landscapes that are the most attractive and are viewed from popular travel routes are assigned higher scenic integrity objectives. The methodology for establishing scenic integrity objectives is provided in Forest Service Agriculture Handbook 701. This same methodology is used throughout the national forests. Although the scenic integrity objectives do not indicate what kinds of activities are appropriate in any area of the national forest, they do give an indication of how well any development needs to blend into the natural landscape character.

The Forest Service should clarify their management intent for recreation development, allow for upgrades and facilities construction at ski areas, and reconsider the scenic integrity objectives proposed in the draft forest plan. (PC 922)

The use of the term "reconstruction or replacement of facilities where problems exist" that was used to describe Alternative 4 in the DEIS Executive Summary has been replaced in the FEIS, Chapter 3, by the following: "Reconstruction or replacement of existing degraded facilities and construction of new facilities to accommodate projected recreation demand in an environmentally sustainable way." The description of the selected Alternative 4a notes: "Reconstruction of existing degraded facilities and construction of new facilities to accommodate a partial amount of the projected recreation demand in an environmentally sustainable way." The Angeles National Forest believes that the scenic integrity objectives around the ski areas are consistent with the management direction in the final revised forest plan.

The Forest Service should designate the scenic integrity objective for the Angeles Crest Resorts special-use permit area as either low or very low to allow Angeles Crest Resort to continue to provide outdoor recreational opportunities. (PC 875)

Scenic integrity objectives are based on public concern for scenery as well as the maintenance of landscape character and achievement of desired conditions. SIOs do not preclude the development or continued availability of recreation opportunities.

Law Enforcement

The Forest Service should consider that lack of enforcement for drug use is due to the enforcement need for motorized activity. (PC 3983)

Respondents express a concern that further designation of wilderness would restrict law enforcement's ability to control marijuana cultivation or methamphetamine production. Wilderness recommendations in the selected alternative are primarily extensions of congressionally designated wildernesses and are generally located in very remote or inaccessible areas. Law enforcement actions are not expected to be affected to any great degree with the additional wilderness recommendations being made by the national forests, with the possible exception being the Hauser Wilderness on the Cleveland National Forest if a resurgence of immigration patterns emerges similar to the travel patterns that were prominent in the early and mid-1990s.

Management and Administration

Forest Management General, Multiple

The Forest Service should consider using the term "manage" in place of "protection." (PC 530)

Management direction is found in the revised forest plans, not the EIS. Plan direction uses terms such as "maintain and enhance habitat conditions," "mitigate impacts," and other phrases that more clearly identify management intent than the word "protect."

The Forest Service should consider the crisis in Southern California forests and advance a combination of fire strategies: make the forests less combustible; plan burning at selected low risk times; or suppression alone. (PC 1313)

Please see Part 2 of the revised forest plan for a description of strategies, objectives and program emphasis relevant to fire management.

The Forest Service should not ban campfires. (PC 4014)

The San Bernardino National Forest includes a restriction on campfires in wilderness, except those seasonally allowed at designated sites within the San Jacinto Wilderness (see Standard S10 in Part 2 of the forest plan). The purpose is to prevent human-caused fires in areas that have poor fire suppression access and pose a threat to the health and safety of visitors as well as a threat to property. Visitors may still use gas, jellied petroleum, pressurized liquid fuel, or other portable camp stoves to cook or heat.

The Forest Service should protect Eagle Peak and Cedar Creek. (PC 4023)

The Eagle Peak area has been zoned for Back Country Non-Motorized use in Alternative 4a, the selected alternative. This zoning is intended to allow for a range of management options that may be necessary to maintain the unique resource values that characterize this area, including its natural, undeveloped and unroaded character and the beauty of the landscape. The Cedar Creek area has also been zoned for Back Country Non-Motorized use.

The Forest Service should emphasize proactive management of the forest including forest health, tree harvest, sustainable multiple-use management, public participation and education, fire prevention, law enforcement, and habitat management. (PC 4028)

Management action is needed to address the conditions described in Chapter 3 of the FEIS, Affected Environment, Vegetation Condition and Forest Health and Wildland Fire and Community Protection. In the revised forest plan, please note the forest health goals in Part 1 and the strategies to get there in Part 2. Timber or fuelwood removal would be consistent with forest plan direction, along with the public participation and education you also suggest. See also response to PC 4042 in this section.

The Forest Service should recognize and maintain existing landscape connectivity of the national forest to other adjacent open spaces. (PC 4033)

The land use zoning allows for the connectivity of motorized and non-motorized trail systems such as the Pacific Crest National Scenic Trail.

The Forest Service should manage its lands adjoining and upstream of Fremont Canyon in a way that is consistent with the management direction adopted by the Irvine Ranch Land Reserve, through the Nature Conservancy. (PC 4037)

Based on public comment, the Back Country Non-Motorized zoning displayed in Alternative 2 of the draft plan has been refined and expanded in many areas of the Cleveland National Forest, including Sections 1, 12, 13 and 24 on the slopes west and south of Sierra Peak. In addition, the Back Country (BC) zone concept displayed in the draft plan has been refined to distinguish between areas where motorized public access is suitable (BC) and areas where motorized access is allowed for administrative purposes only (Back Country Motorized Use Restricted (BCMUR)). BCMUR zoning has been applied to Sierra Peak Road and the motorized zone along the North Main Divide Road and Black Star Canyon Road has been narrowed. Management intent is to emphasize non-motorized conditions and resource protection. Off-road vehicle or off-highway vehicle opportunities will be supplied within the Wildomar OHV area.

The Forest Service should replicate natural processes that occur in more remote areas and protection efforts should be concentrated along highways, utility corridors, near communities, and other high use areas. (PC 4040)

Please refer to Part 2 of the revised forest plans for a description of strategies, objectives and program emphasis.

The Forest Service should preserve the ecological viability of the Puente-Chino Hills wildlife corridor. (PC 4042)

The national forests do not directly connect to the Puente Hills, so it is not possible for the Forest Service to preserve the ecological viability there. However, the national forests are committed to being a part of the multi-species habitat conservation and missing linkages projects in the region. This commitment is included in Parts 1 and 2 of the revised forest plans. The forest plan for the Cleveland National Forest refers to the connection of the Santa Ana Mountains to the Chino Hills in the Elsinore Place. The forest plan for the Angeles National Forest Front Country Place refers to providing connectivity to open space which could still potentially link to the Puente Hills via the San Gabriel River. Additional direction and strategies are included in various portions of the forest plan to cooperate with others in maintaining landscape linkages and connectivity.

The Forest Service should consider disallowing common uses when they become too damaging or incompatible with a wildland environment. (PC 4043)

The relevant laws, regulations, agreements and other management direction (see Appendix A) include direction that prohibits or constrains some activities. The revised forest plan is responsive to the effects analyses in Chapter 3 of the FEIS and also will adapt to changes in conditions or science in response to

monitoring and evaluation during the plan period. Hunting is regulated by the State not the Forest Service.

The Forest Service should reevaluate the forest as a resource of global importance. (PC 4044)

We agree with you about the global and national niche (see Part 1 of the forest plan, Niche) of the southern California national forests. We plan to use education, interpretation, and partnerships to progress toward Goal 3.1, which includes the greater citizen understanding, appreciation, advocacy, and participation in forest stewardship and ecosystem conservation.

The Forest Service should recognize that the northern Los Padres National Forest is highly distinct from the other forests in this plan. (PC 4046)

The Monterey District of the Los Padres National Forest is indeed quite unique in having a more rural character, a unique culture centered around the Big Sur coast and the agricultural Salinas valley, and unique flora and fauna associated with the seashore and the southern range of redwoods and oak savannahs. These traits are dealt with in the species management plans, the vegetation types that form the basis for fire regimes and vegetation management strategies, and in the management emphases stated in the Big Sur, Arroyo Seco, and Ventana Places. There are many distinct geological, vegetation, biological, and cultural differences across the southern California planning area which are accounted for by the resource mapping that is used to characterize the national forests, and by the zoning, including identification of places, which allow the appropriate management strategies to be expressed for each situation.

The Forest Service should address the impacts on air quality and noise to the ecosystems of the forest. (PC 4048)

Please see Chapter 3 FEIS - Air Quality and other related sections describing environmental consequences to ecosystems.

The Forest Service should improve recovery plans for threatened, endangered and sensitive species and other native wildlife and plants. (PC 4050)

The forest plans have been revised to provide greater protection for threatened and endangered species. The selected alternative has been revised to include more Critical Biological zones than in Alternative 2 of the DEIS for the Cleveland National Forest and Alternative 4 in the DEIS for the Angeles, Los Padres and San Bernardino National Forests (see Land Use Zone maps for selected alternative and table 365 (Primary Species within Critical Biological Land Use Zones) in Appendix B of the FEIS). Part 1 of the forest plan has been revised to include more explicit goal statements regarding biodiversity and listed species (Goal 6.2). Part 2 has revised strategies for recovery and conservation of threatened and endangered species. Please see Chapter 3 of the FEIS, Affected Environment, Biological Diversity, Resource Protection Measures, which identifies the measures necessary to protect biological resources and species viability.

The Forest Service should disclose their management intent and ability to provide preservation and conservation coverage for biodiversity and threatened and endangered species. (PC 4054)

Please see Part 1 of the revised forest plan for a description of management challenges as they relate to wildlife and increased urbanization and for a description of our vision for the national forests of southern California. See Chapter 1 of the FEIS for the purpose and need for forest plan revision. See Chapter 2 of the FEIS for a description of the selected alternative (Alternative 4a) and Part 2 of the revised forest plans for a description of our strategy for threatened and endangered species (WL1 in Appendix B). See Chapter 3 of the FEIS for a description of the predicted effectiveness of the selected alternative to provide for species viability and habitat linkages. See the Biological Assessments of the revised forest plans for further analysis on the effects of forest plan decisions (land use zones, suitable uses, desired conditions,

standards, special areas, recommendations for wilderness or wild and scenic river status) on threatened and endangered species and the habitat linkages they require.

The Forest Service should recognize the role of the Angeles National Forest in providing connectivity from the San Gabriel Mountains, across State Route 14 (SR-14) and Interstate 5 (I-5), towards the Los Padres National Forest (west of I-5) for wildlife movement. (PC 4056)

The role of the Angeles National Forest in providing regional connectivity for plant and animal habitat has been strengthened in Part 2 of the forest plan. The Settings, Desired Conditions, and the Program Emphasis in the Places have been rewritten to clarify the importance of maintaining the landscape linkages you describe. In addition, a reference and link has been made to the South Coast Wildlands website (<http://scwildlands.org>) and the South Coast Missing Linkages Project in the forest plan (Part 2, Strategies WL-1) and FEIS in Chapter 3, Environmental Consequences, Effects on Biological Diversity. The Forest Service has been a partner in the effort to protect valuable landscape linkages for many years and has contributed funding to the effort. In the Missing Linkages project and website, the individual linkages are described, including the threats and needed management. The differing alternatives and effects on landscape linkages are described under the mountain lion Management Indicator Species (MIS) writeup in the FEIS. Since much of the linkage is on private land for many of the linkages, there is a varying influence of national forest management. The land use zoning in the selected alternative should not substantially impact the value of any of the Missing Linkages Project linkages.

The Forest Service should continue their participation in the South Coast Missing Linkages project. (PC 4058)

The Forest Service has been an active participant in the Missing Linkages project and continues to be involved in the specific linkages affected by national forests. We have made participation in the Missing Linkages Project and multi-species planning efforts part of the WL 2 Strategy in Part 2 of the forest plan along with a desired condition in Goal 6.2 (Part 1) to maintain or improve habitat function for landscape linkages.

The Forest Service should incorporate into each activity of an individual project restrictions and limitations (i.e., precautionary or protective measures) on the manner in which the activity will be implemented for the purpose of protecting listed species and their habitat. (PC 4059)

During planning for any individual project, the Forest Service designs the project to address site-specific conditions and be consistent with forest plan direction, including the appendices and standards in Part 3 of the forest plan, as well as the overarching management direction as listed in Appendix A in Part 3 of the revised forest plan. Together, this direction will protect listed species and their habitat. Forest plan monitoring that will be conducted is summarized in Appendix C.

The Forest Service should allow activities and modification to existing infrastructure if they are beneficial or neutral to the species in Research Natural Areas, Special Interest Areas, and the San Dimas Experimental Forest. (PC 4061)

The revised forest plans would not preclude activities and modifications to existing infrastructure if these activities and modifications are beneficial or neutral to the values and features for which research natural areas, special interest areas, and experimental forest were established. Please see SD 3 and SD 4 in Appendix B of Part 2 of the revised forest plans. Additional direction for the management of research natural areas, special interest areas, and experimental forests are found in the Forest Service directive system [Forest Service Manual (FSM) 2360, FSM 2372, and FSM 4060].

Processes, Methods, Waste Treatment, Disposal

The Forest Service should include a protocol description to include contacting NOAA Fisheries when a hazardous material spill has the potential to affect steelhead. (PC 3651)

Please note that the final forest plan for the Cleveland National Forest has revised the WAT 2 strategy to note contacting NOAA Fisheries.

Social and Economic

Economics and the Economy

The Forest Service should consider the Small Business Administration definition of "small entity" in their analysis of impacts on small entities. (PC 87)

The issuance of an FEIS in support of a forest plan in compliance with rules and regulations at 36 CFR Part 219 does not constitute rule making. The economic efficiency and impact analyses in the Effects on Economic Environment section in Chapter 3 of the FEIS both include minerals activities as part of the analysis. The economic data of the IMPLAN impact model, in particular, do not make a distinction of the size of the business but rather treat minerals as an economic sector. Nor does this planning document treat mineral withdrawals as a direct land allocation, but only indirectly as pertains to Wild and Scenic River and wilderness recommendations. Other than these two potential changes, there is little else in the revised forest plans that affects miners compared to the current situation.

The Forest Service should gather, analyze, and publish the information necessary to understand the direct and indirect economic benefits of the forests. (PC 169)

The economic benefits of commercial uses were included as the value of collections for special-use authorizations, including grazing and oil and gas. These and other values to the local economy, such as Forest Service employment and national forest recreational visitation, were all used to calculate the direct, indirect and induced Forest Service-related economic impacts. Details are available in Chapter 3 of the FEIS (see table 173: Regional Direct, Indirect, and Induced Employment Attributable to National Forests; table 174: Regional Direct, Indirect, and Induced Labor Income Attributable to National Forests; and table 175: Forest Service-Related Contributions to the Four-Forest Economy). These impacts are stated in terms of employment and labor income. What could not be calculated is an economic impact in terms of contracts for minority, small business, and women-owned small businesses. Expenditure profiles for households, visiting recreationists, etc. are applied to a technical matrix of Standard Industrial Classification industry interactions compiled from county data to derive the direct, indirect, and induced effects. These data are not subclassified into ethnic groups or size of business and thus cannot be displayed as a component for economic impacts. Nor is it known how purchases and contracts would vary by alternative. Thus it would not be useful for comparing the impacts of alternatives. Compliance with the Small Business Act for purchases and contracts is required by law and internal regulations and is beyond the scope of the forest plan. So, too, is the question of employment opportunities within the Forest Service.

The Forest Service should encourage cities and counties to share the financial burden of new fire programs. (PC 1302)

You are correct that in many cases urban areas have expanded into wildland areas without adequate fire protection measures. We intend to work with local entities to increase the level of fire protection off federal lands.

Community protection plans are an avenue for cities and communities to be proactive with fire planning and hazardous fuels reduction. State and Federal community protection grants are available for organizations and agencies for fire planning and hazardous fuels treatments.

Comparison of values, Cost-benefit, Trade-offs

The Forest Service should consider the accuracy of the cost-benefit analysis of the alternatives. (PC 165)

The economic efficiency analysis (see table 177: Present Values of Costs and Benefits by Alternative in \$ X 1,000) of the FEIS is meant to show the investment effectiveness of each alternative based on measurable commodity outputs for which we can place a market value or reasonably place an estimated value using indirect measures such as willingness to pay. The values may not be precise but are the same in the calculation of net present value for each alternative, so the relative comparison between alternatives is valid. The efficiency analysis is not meant to deal with the myriad of intangibles. The present value benefit of wildlife is highest in Alternatives 4 and 5 because it is based on the measurable human experience of wildlife watching, not on the intangible value of habitat conservation. The intangible value of resources and property saved is not included for alternatives having better access for fire suppression. There is no calculation of the intangible value of a preserved landscape in this analysis. Such considerations would require a level of study not feasible or necessary in the forest planning process. The explanation in Chapter 3 of the FEIS (Effects on Economic Environment) will be expanded per this response.

The Forest Service should perform a cost analysis comparison for implementing and maintaining each of the six alternatives. (PC 623)

The FEIS presents comparisons of the alternatives in terms of the results of the economic efficiency and impact analyses (see table 173: Regional Direct, Indirect, and Induced Employment Attributable to National Forests; table 174: Regional Direct, Indirect, and Induced Labor Income Attributable to National Forests; and table 175: Forest Service-Related Contributions to the Four-Forest Economy). The purpose of these analyses is to contribute information that helps to form a basis for the decision on the selected alternative. Parts 1, 2, and 3 of the draft plan are addressed only to the preferred alternative and the implementation thereof. Likewise, the final revised forest plan reflects only the selected Alternative 4a.

The Forest Service should protect resources and not permit off-road motorized traffic within the forest boundaries. (PC 3011)

Off-highway vehicle (OHV) use is a legitimate recreational activity on National Forest System lands. Refer to the response to PC 4507 in Motorized Recreation for additional information regarding OHV use on the four southern California national forests and to PC 1944 in Recreation Management, Recreation Opportunities, ROS for discussion regarding land use zones and how this zoning affects the ability to provide different types of recreational activities and to separate uses, if needed, to reduce conflicts between various activities. It is important to emphasize that off-road vehicle use--in the sense of travel off of designated roads, trails and areas--is not allowed in the Back Country or any other zone. Please see general response 9998 Land Use zoning and Overlays, place-based program emphasis in this appendix regarding clarification of land use zones in the final revised plans.

When there is a conflict between OHV use or infrastructure and environmental protection, the Forest Service should propose mitigation that best preserves both the environmental resource and the OHV facility. In the rare case where there is no mitigation possible, the OHV facility should be replaced within the same vicinity. (PC 3019)

Appendix D (Adaptive Mitigation for Recreation Uses in Part 3 of the forest plan) has been expanded as a result of comments received. These mitigation steps are designed to provide for the sustainability of resource values while taking the least intrusive steps possible to obtain that sustainability.

The Forest Service should implement plans that will ensure the fair distribution of the benefits and burdens of the forests, enhance human health and the environment, promote economic vitality for all communities, and engage full and fair public participation determining the future of our forests. (PC 3052)

Per the handbook requirements of a socioeconomic impact analysis (SIA), a three-part examination of sociodemographics, economic efficiency, and economic impacts was performed. The sociodemographic analysis recognizes the ethnic composition of southern California populations, and the implications for public participation on National Forest System lands and in national forest facilities. For the most part, this means providing multi-lingual signing, and applying cultural orientation to environmental educational opportunities and to the layout and design of recreational facilities. It also means doing outreach to neighboring communities to gain the kind of feedback needed to guide further efforts to provide appropriate facilities and opportunities for diverse populations. These objectives are stated in each forest plan as part of strategic program emphasis and program strategies and tactics.

The Forest Service can respond to the cultural composition of arriving visitors to the national forest but it is beyond the scope of this analysis and not within the scope of Agency authority to influence the participation of ethnic groups in various activities. This same discussion also recognizes the incalculable value of forest landscapes to the population at large and its importance to human health and well-being in adjoining crowded urban environments. See the discussion in the FEIS, Affected Environment, Social and Economic Environment and refer to table 168: Population Characteristics Compared for the U.S., Calif, and So. Calif Assessment Areas in 1990 and 2000 (Part 1 of 2); table 169: Population Characteristics Compared for the U.S., Calif, and So. Calif Assessment Areas in 1990 and 2000 (Part 2 of 2); table 170: Language Spoken at Home, State of California, 2000; and table 171: Comparative Median and Per Capita Income in 1999 Dollars. The economic impact analysis calculates generation of jobs and income in the area of influence for each of the four southern California national forests. The area of influence is defined as the county or counties containing each national forest. The IMPLAN data used in each analysis are compiled by county and calculate job and income effects by industries grouped into Standard Industrial Codes (SIC). The SIC codes give no indication of ethnic composition in terms of how jobs and income are distributed. An estimate of the distribution of jobs and income from Forest Service-based expenditures among ethnic groups might be derived if data were available showing employment by ethnic group by SIC code. Even if this were calculated, it would not be an indication of fairness nor is it within the power of the Forest Service to influence it. The ebb and flow of economic activity between communities and within industries, not to mention the composition of ethnic groups working in those industries, is subject to the factors governing the behavior of the market place. In a huge regional economy like southern California, the Forest Service is a small player and has no ability to direct impacts to achieve fairness.

The Forest Service should use federally funded research programs. (PC 3063)

Thank you for making us aware of the High Performance Wireless Research and Education Network (HPWREN) project.

Environmental Justice

The Forest Service should sufficiently include low-income and minority populations in the analysis; identify related issues of concern; provide for inclusive public participation; determine affected environment; and study statistical data sets and environmental justice implications in these communities to determine the environmentally preferable alternative. (PC 86)

The alternatives were constructed in answer to issues that were identified by the public scoping process. Moreover, the Forest Service mission is to care for the land while serving the people. The alternatives address the fundamental issues of balance between landscape preservation and human uses. Environmental justice issues involving ethnic participation and availability to low-income groups are

equally applied to all of the alternatives. The demographic data in the FEIS verify the significant presence of various ethnic groups, and the program-level emphasis on environmental education and outreach, bi-lingual signing, and design and layout of recreational facilities applies everywhere regardless of alternative. For other comments pertinent to this topic, please see responses to Public Concerns 3052 (Comparison of values, Cost-benefit, Trade-offs) and 1844 in this section.

The Forest Service should consider the effects that lack of vehicular or equestrian access in non-motorized zoning will have on senior citizens, the disabled and other groups. (PC 312)

Based upon public comments the consequences on driving for pleasure have been clarified to show that Alternative 6 may make some developed sites more difficult to reach (see consequences, driving for pleasure, FEIS). The Recreation strategies in Part 2 of the forest plan (REC 2 and REC 3) have been clarified to better portray management intent to provide opportunities for a broad range of activities for all people.

This plan is a strategic document and does not go into the level of detail of previous planning efforts but rather better provides a living document that provides the direction and desired conditions that each national forest will develop further at the project level. In Part 2 of the forest plan, the program strategies for recreation and the Place emphasis describe the intent of the recreation program and the specific actions anticipated for the next 5+ years for each Place. The Land Use Zones have been refined to better explain where activities are appropriate and this is again reflected in the Theme for each Place in Part 2 of the forest plan.

Land use zoning is used to display suitable land management activities. Land use zones have been assigned to all areas of the national forests. Management intent is to supply a balanced range of environmentally sustainable recreation opportunities on the four southern California national forests for visitors of all ages and abilities. Program emphasis for each zone type varies from primitive and unconfined recreation (which may require high skill and self-reliance), to highly developed recreation sites for camping and picnicking and motorized touring.

The Architectural Barriers Act and the Americans with Disabilities Act (referenced in Part 3 of the forest plan) mandate providing equal access to each of the programs managed for on the national forests. The non-motorized zoning does not preclude equestrian activities.

The Forest Service should incorporate the National Americans with Disabilities Act standards in their planning process. (PC 1826)

The Americans with Disabilities Act is one of the laws that guides all activities on the national forests. It is referenced in Part 3 of the forest plan, Appendix A.

The Forest Service should analyze different patterns of participation on public land by different racial, ethnic, and socioeconomic groups. (PC 1844)

Chapter 3 of the FEIS, Social and Economic Environment, assesses population characteristics, including ethnic and racial diversity; immigration trends; wage trends and levels; unemployment rates; and economic diversity. The Hispanic/Latino segment of the population within the planning area is clearly the most dominant ethnic group. In the Environmental Consequences section of the FEIS, Effects on Social Environment, the analysis draws upon use statistics indicating that Hispanics currently tend to participate at developed recreation sites, rather than hike and backpack in dispersed areas or wilderness.

In Appendix B of Part 2 of the forest plan, the REC 3 strategy gives direction to implement adaptive management processes at recreation facilities to proactively respond to persons with disabilities, contemporary urban visitors, aging populations, diverse ethnic groups, and day-use emphasis.

The forest plan recognizes the ethnic diversity of the population served, citing in the Urbanization Section of Management Challenges that "the ethnic diversity of the population has increased so that approximately 30 languages are used in the area." Further, the forest plan recognizes the increased

demand for day-use activities such as picnicking, driving for pleasure, and trail use, as well as access to dispersed areas where people recreate. The Vision Statement specifically cites that the national forests will provide a balanced and sustainable flow of goods and services for a growing diverse population while ensuring long-term ecosystem health, biological diversity and species recovery. The Public Use and Enjoyment Strategic Program Emphasis and Objectives reads: "The forest will emphasize providing balanced, environmentally sustainable recreation opportunities to meet the needs of a growing, urban, culturally diverse population, particularly day-use." The ethnic and racial diversity of the planning area, as well as resulting changes in use patterns, perceptions and recreation activities are also recognized in the FEIS (Chapter 3, Recreation). The FEIS notes that more Hispanic visitors are expected; short-term, day-use recreation activities will continue to increase in demand. The FEIS goes on to affirm that there will be a gradual shift toward construction and conversion to more day-use facilities rather than overnight campgrounds. Popular dispersed recreation activities, such as driving for pleasure, nature viewing and water play will continue with measures to protect sensitive resources.

Heritage Resources

Heritage Resources Management

The Forest Service should gather, analyze, and publish the information necessary to understand how the cultural and heritage resources in the four national forests reflect the diversity of cultures of the State. (PC 94)

The information on the diversity of cultures of the State can be found in the FEIS, Chapter 3, Social and Economic Environment, and tables 168 and 169 in the FEIS, Population Characteristics Compared for the U.S. and So. Calif Assessment Areas in 1990 and 2000, Parts 1 and 2. The demographics of the assessment area are analyzed to the extent that impacts on national forest uses and facilities can be recognized. That is especially true for the larger ethnic groups such as the Hispanics. Native peoples are recognized not for their influence in numbers but rather for their status as indigenous to the national forests and reflected by the Heritage Resources program. The references listed in the Affected Environment for Heritage Resources in the FEIS show the diversity of the cultures associated with the national forest's heritage resources and how the diversity has changed over time.

The Forest Service should more clearly define what is meant by "traditional uses." (PC 512)

Traditional uses are associated with those cultural practices or beliefs of a living community (in this case, the Native American community) that are rooted in the community's history, and are important in maintaining the continuing cultural identity of the community. Traditional can be defined as those beliefs, customs, and practices that have been passed down through generations, usually orally or through practice.

Traditional uses would be the gathering of certain plants like *Juncus* for basketry or acorns for food. Contemporary uses reflect how change (e.g., the incorporation of modern implements into basketmaking) is incorporated within traditional uses of the national forests.

Native American use of the national forests is governed by Federal statutes and regulations, or in the case of hunting and fishing, State regulations unless reserved by Treaty or approved through other Federal or State authorizations. Contemporary uses are expected to be in line with traditional uses, and to be a suitable use on National Forest System lands. Native Americans do not control National Forest System lands as they are not treaty or reservation lands. Gambling casinos would not be considered a suitable use of National Forest System lands.

The Forest Service should consider that the purpose of the plan is not just to set a context for project development, but to also provide stewardship of the irreplaceable cultural and tribal resources under its care. (PC 1494)

Project development is further defined in the text as a response to demands by the public, or as a part of a Forest Service program (see Part 2, Strategies). In the revised forest plan, Part 2, stewardship of the irreplaceable cultural and tribal resources under the national forest's control is addressed by Strategic Program Emphasis and Objectives Tribal 1: Traditional and Contemporary Uses, Her 1: Heritage Resource Protection, Her 2: Public Involvement Program, and Her 3: Heritage Research.

The Forest Service should provide information regarding where the proposed spatial linkages between forest boundaries and contiguous Tribal properties are that would promote the focus of developments listed in Strategy Tribal 2, and how those would occur if forestland that was contiguous with Tribal land is designated as proposed wilderness areas. (PC 3090)

The base spatial linkage is expected to be, but not limited to, watersheds shared between the national forest and adjoining tribal land. The collaborative partnerships will identify the opportunities and develop the protocols to develop and implement the opportunities. Any project within proposed wilderness that is formally designated as a wilderness will be governed by the rules and regulations for activities within a wilderness. Also refer to Part 2 of the revised forest plan, Land Use Zone section, for a description of how area zoned as Recommended Wilderness will be managed to preserve its wilderness characteristics.

The Forest Service should consider that mitigation to cultural properties to identify activities that may adversely affect or not complement the site should be 100 percent and should be done within a target completion date. (PC 3681)

The planning cycle refers to the duration of this forest plan revision, which is 10 to 15 years. The target identified in the forest plan represents the anticipated performance by the national forest over the next three to five years. It is the goal to have completed treatment plans that will mitigate or lessen any identified adverse impacts or effects to 100 percent of those significant sites with documented effects by the end of the planning cycle. The focus will be on significant sites, which are defined as those determined eligible or listed on the National Register of Historic Places or those that have yet to be evaluated for National Register eligibility.

The Forest Service should consider that the provision that confidentiality of cultural resource site locations will be maintained to aid in their protection; part of the 1986 Plan (Standards and Guidelines, 4-23) should also be included in the updated Plan. (PC 3682)

The standards listed in the final revised plans consist of those standards that are legally required, as described in 36 CFR 219, and those standards that are required for resource management. The standards that were listed in the original forest plans for the four southern California national forests were reviewed and brought forward to the Design Criteria of the forest plan - Part 3 if they meet the above criteria. However, if a standard was already covered by existing laws and regulations, then it was not brought forward or repeated in this forest plan revision. The Archaeological Resources Protect Act of 1979 (as amended and listed in Part 3 of the forest plan) mandates the confidentiality of site location information to avoid a risk of harm to the site (Section 470hh.(a) Disclosure of Information).

The Forest Service should ensure that the Draft EIS include more specificity in its heritage resource mitigation options, and options should be presented for each identified impact. (PC 3685)

Heritage resources will be protected and managed according to the forest plan standards and applicable laws and direction. All of this is found in Parts 2 and 3 of the revised forest plan. The focus will be to prepare management plans for significant heritage resources on a case-by-case basis as the need and funding arises; furthermore, it is in this document that mitigation options will be presented for the identified impacts.

The Forest Service should maintain the National Monument as primitive as possible when any improvements are constructed so as to lead the general public away from archaeological sites. (PC 3686)

The Santa Rosa and San Jacinto Mountains National Monument Management Plan and Final EIS was finalized in October 2003. The selected alternative of that Plan is considered to have a positive effect on cultural resources, including a proactive approach to the identification, evaluation, protection, and preservation of cultural resources. In the forest plan revision, the majority of the acreage is zoned existing wilderness, recommended wilderness, and Back Country Non-Motorized, all of which limit or restrict activities that may pose the greatest threat to archaeological sites.

The Forest Service should make changes to the planning process to adequately address cultural resources on forest land. (PC 3687)

Appendix D of Part 3 of the final revised plan has been modified to include heritage resources. Tools to protect heritage resources include the forest plan standards and applicable laws and direction (see Appendix A in Part 3 of the forest plan). In addition, management plans for heritage resources will be prepared on a site-by-site basis and will address protection needs. It was felt that specific area designation for heritage resources may result in possible vandalism and that the more general designations such as special interest areas would be more appropriate. Heritage resources do not meet the purpose or criteria of other special designations such as research natural areas.

The Forest Service should consider the California Department of Parks and Recreation study emphasizing the public's need to become more aware of California's cultural diversity and its tangible manifestations on the land to serve as a guide for addressing cultural and historical resources in the four national forests. (PC 3691)

We agree that the public needs to become more aware of California's cultural diversity and its tangible manifestations on the land. The Region in the past has sponsored Heritage Resource Interpretation for Cultural Diversity training with Five Views - An Ethnic Historic Site Survey for California used as a textbook. Cultural diversity has been a criterion (enhancement of public awareness of cultural diversity as reflected in our cultural heritage) for Heritage Resource enhancement grants, and heritage interpretation projects focusing on cultural diversity that are present on the four southern California national forests. The second tactic under Program Strategy Her 2: Public Involvement Program (found in Part 2 of the forest plan) provides the focus to continue to foster the connection between the public and their tie to the diverse cultural heritage of the land.

The Forest Service should explain how roads and trails (which are over 50 years old, and considered heritage resources) will be protected. (PC 3693)

Before any historic road or trail can be obliterated, altered, or decommissioned, the area in which it is located in must be inventoried as specified by the National Historic Preservation Act of 1966, as amended. If the road or trail is significant (i.e., eligible for inclusion within the National Register of Historic Places), then measures to protect it or mitigate the effects of the project will be developed. The Angeles National Forest is currently involved in a multi-year inventory project to inventory the current National Forest System roads and trails to identify the historic routes and propose measures to help protect those characteristics that would deem the routes historically significant. This would be a tactic that would support the Heritage Program Strategies (such as Her 1: Heritage Resource Protection) listed in Appendix B in Part 2 of the revised forest plan.

The Forest Service should emphasize Native American cultural survival, consider that any alternative that contributes to increased adverse impacts to natural resources (including plant materials) is a threat to cultural survival for the members of the 44 different tribes for which these forests are historical territories, and mitigate any significant impacts to Native American culture from the continual erosion of their values. (PC 4012)

As stated in the documents, the forest plan and FEIS recognize the significance of natural resources, open space, and a healthy forest to the Native American culture. In the selected Alternative 4a, the land use zones such as Back Country whose suitable uses could be considered as having the highest potential to adversely affect natural resources of concern to the Native American culture has been reduced. Also, the Program Strategies and Tactics for Tribal (Tribal 1 in Appendix B of Part 2 of the forest plan) provides the focus to ensure the appropriate management including mitigation of impacts of the gathering and use of plant materials for basketry.

Roads

Facility Operation and Maintenance

Road and Trail Structures- Bridges, Culverts, Stream-crossings, Gates

The Forest Service should recognize that there is no opportunity to convey flows as described in the DEIS, nor to construct sediment basins at the several hundred sites of culverts and overshots. (PC 1701)

The cited text also notes that run-off must be diverted either onto a stable and well-vegetated slope or into an adequately sized sediment basin. Stable slopes can be accomplished in a variety of means including armoring around overshots to mimic a well-vegetated slope, which is a technique that both the Forest Service and Public Works has utilized in the past. Because many of the County roadways are constructed high above streambeds (in order to protect the roadway from the effects of seasonal flows), there is a greater distance between the road and the stream that generally results in less sediment delivery to the channel (MacDonald, pers. comm.).

Administrative Facilities

Trailheads, Signs, Parking

The Forest Service should clarify in the Draft EIS what is intended by no bilingual signs. (PC 469)

Increased bilingual signing is one of the management actions under each of the alternatives in the DEIS. Reaching as many of the diverse public groups as possible is part of the goals of the forest plan. Part of this responsibility includes information and education efforts across all four southern California national forests.

Roads Management

The Forest Service should consider that Caltrans does not have the appropriate documentation to assume responsibility for state highways within forest land and require the designated District Ranger to review and approve any modifications to transportation facilities. (PC 505)

Currently, where no US Department of Transportation or Public Road easement has been recorded for State Highways across the National Forest System lands, much greater operational coordination is necessary with local District Rangers. Proposed modifications need to be coordinated through the site-specific NEPA process, and its required documentation, since federal land is involved. Others (including Public Road easements) may have the Federal Highway Administration (FHWA) as the lead Federal Agency to review the documentation associated with the NEPA process.

A three party Memorandum of Understanding (MOU) signed in December 2001 between USDA Forest Service (Region 5), FHWA, and Caltrans addresses a process "To Perfect Title Along Segments of Existing Highways on Forest Service Lands in the State of California."

An earlier MOU between the Forest Service (Region 5) and Caltrans agrees to processes to follow in the planning and implementation of projects, and general cooperation between agencies (Memorandum Of Understanding To Establish Procedures For Coordinating Activities Related To State Highways Across Lands Administered By The USDA Forest Service In The State Of California, 1989. FSM 1500 - External Relations R5 Supplement 1500-93-3 Effective 03/12/93).

The Forest Service documents should more fully reflect the maintenance and use of forest roads by other permittees such as adjacent counties. (PC 1504)

The FEIS, Chapter 3, Roads section was augmented with the following text: "The State Highways and County Roads provide the means for access to recreational opportunities for almost all national forest users, an alternative means of travel between geographic areas and facilitates the effective management of the national forests. Many were constructed prior to the existing freeway system and retain their significance as alternative routes when freeways become closed due to events such as earthquakes."

Permittees that have been granted exclusive use to National Forest System roads are responsible for the maintenance of their permitted roads. There are instances where a permittee has the primary need for the national forest road, and therefore, maintains the road to a higher level than the national forest funding levels may permit. Also, permittees have entered into cooperative maintenance agreements with the national forests that provide funding for forest road maintenance.

The Forest Service should not implement the Scenic Highway Implementation Plan until further pertinent details are explored and made available to the public about what highways are being suggested for the status in the plan, and potential implications. (PC 1505)

The Angeles High Country is one of the Places that includes the Angeles Crest Scenic Byway (Hwy 2). This Scenic Byway also goes through the Front Country, Angeles Uplands (West), and Mojave Front Country Places. The corridor Management Plan is currently being completed, with public participation, separate from this planning process. As part of the emphasis for the Angeles High Country Place, it is anticipated that several of the recommendations in the corridor plan will be implemented in the next 10 to 15 year period. The Place Program Emphasis has been revised in the selected alternative to better reflect the revised zoning and focus within this Place.

Forest Service documentation should clearly state that, while some roads and trails will be abandoned, there will be no net loss of roads, trails, and mileage. (PC 1509)

The forest plans do not include a strategy of no net loss of road or trail mileage. The preferred alternatives for each national forest do not propose to abandon any particular classified roads or trails. Unclassified roads and trails will be evaluated on a site specific basis through the NEPA process, to determine their suitability to add to the system, or to decommission.

The Forest Service should reconsider the effects of new roads on the San Gabriel Watershed and therefore on communities reliant upon its water such as the erosion of stream banks, sedimentation deposits, soil compaction, pavement impact on surface water quality, flow, reservoir capacity, reduced infiltration, increased surface runoff, and increased potential for contamination. (PC 1517)

There are no plans to build any new roads in the next planning cycle in the San Gabriel Canyon watershed.

The Forest Service should clarify which roads and trails in National Forest System land contribute damaging amounts of sediment to streams. (PC 1518)

A multi-forest scale Roads Analysis was drafted as a component of the forest plan revision for the Angeles, Cleveland, Los Padres, and San Bernardino National Forests. The Roads Analysis Process (RAP) was developed following the process described in Roads Analysis: Informing Decisions About Managing the National Forest Transportation System, FS-643, August 1999. The RAP and environmental risk assessment of roads are described in FEIS Chapter 3, Roads. This analysis was used in the preparation of the FEIS and forest plans. Roads-related analyses and tables in the FEIS are based upon the data and mapping developed during the RAP. The RAP analyzed National Forest System roads, those under jurisdiction and maintenance by the Forest Service. Trails (motorized or non-motorized) were not analyzed in this process.

Chapter 4 of the RAP discusses the outcome of the analysis and links to complete risk assessment tables by road that are in Appendix E, Full Benefit and Risk Tables. Chapter 4 also includes a link to the maps that display the tabular information on national forest maps with the roads. The potential for sediment discharge associated with roads was one of the variables in the model used in the analysis process. This rating was part of an overall, cumulative score that resulted in roads being identified as high risk and priority for mitigation, and can be found in Appendix E.

The Roads Analysis documents (along with other scientific and technical studies used in the DEIS) were available for public review in the Reading Room during the public comment period on the DEIS and draft forest plans. The Reading Room is posted on our website and on the CD version of the forest plans.

The Forest Service should maintain access to USGS 2, 3, 4 and 5 roads as well as Revised Statute (RS) 2477 roads for fire suppression and fuels reduction needs. (PC 1534)

We assume USGS means USFS or National Forest System roads (NFSR) Maintenance Level (ML) 2,3,4, and 5 roads. Due to many comments regarding the need for fire suppression, community protection, and forest health improvements, all the alternatives considered kept NFSR ML 1 through 5 roads, although restriction of use varies by alternative. The Back Country Motorized Used Restricted zone was added to allow for administrative road access, in order to facilitate forest health projects, fire suppression and protection, while limiting public motorized access. The ability to maintain these roads is funded to cover about 20 percent of the need so budget priorities determine the extent to which repairs (or decommissioning) can be done.

The national forests do not maintain RS 2477 roads. Qualifying roads are maintained by a public road agency like a county or city. Claims to identify and evaluate potential RS 2477 roads are outside the scope of the forest plan revision.

The Forest Service should address how, when, and under what criteria roads will be decommissioned to account for maintenance access to utility facilities and comply with state and federal utility inspection laws. (PC 1558)

By definition, roads authorized for access to natural gas infrastructure or other permitted activities are needed. If the road serves a single purpose, not Forest recreation or administration, the Forest may transfer operations to the permittee.

The Multi Forest Scale Roads Analysis Process (RAP), available as a reading room document, identified and ranked National Forest System Road (NFSR) Maintenance Level 1 through 5 roads as to their environmental risk, measured along with their public and administrative need. Potentially unneeded roads (including roads that are redundant in function and access) will be further analyzed through site specific RAP when related to a project. The access needs of permittees on NFSR are incorporated into this process. It is possible that a road currently used by the Gas Company may be targeted for decommissioning by this process if another road accomplishes the same need for the Gas Company, and

may be in better condition or is more environmentally sustainable than the road the Gas Company is currently using. The revised forest plan does not affect the administrative processes used for the management of authorized utility access roads. It is assumed that all roads that are needed by a permittee, whether operated by the Forest Service, or operated by the permittee and not open to other uses, would be included under the authorization issued for the utility infrastructure.

The Forest Service should clarify how the Draft Land Management Plan applies to Ortega Hwy SR-74 since it operates under easement from the Forest Service and is not a designated scenic highway. (PC 1572)

The Highway 74 corridor is zoned as Back Country, with Scenic Integrity Objective of High through the whole corridor. Therefore, Highway 74 is a suitable use and the easement is carried forward in the forest plan. The terms of the easement will still be followed. If activities associated with Highway 74 do not conform to the terms of the easement, or a change in the easement is necessary, then site specific NEPA analysis may be required, and the forest plan will be the basis for that analysis.

The Forest Service should exempt public roadways from the closure or restricted use requirements of roads which lie within 1,300 feet of Bald Eagle nests. (PC 1588)

The Standard S27 has been rewritten to provide for site-specific analysis rather than a blanket 1,300 foot closure or restriction. This permits more flexibility to allow the use of roadways that are not affecting the nests and nesting birds.

The Forest Service should demonstrate why Maintenance Level (ML) 1 and 2 roads should not be restored to their natural state. (PC 1652)

Level 1 and 2 roads were analyzed for removal and restoration under Alternative 6. The selected alternative adds the BCMUR zone. The ability to protect communities from the effects of wildfire is one justification for keeping the Level 1 and 2 roads, forest vegetation treatments is another. Alternative 6 was modified in the FEIS due to public concerns to leave the NSFR ML 1 and 2 roads for fire, forest health, community protection, and other administrative needs.

The Forest Service should restrict or reroute roads and recreational trails in bighorn sheep habitat to avoid conflicts with sensitive bighorn sheep habitat areas, such as lambing areas and water sources. (PC 1807)

The Peninsular Bighorn Recovery Plan and the Implementation Strategy to Restore the San Gabriel Mountains Bighorn Sheep Population have been incorporated into the Species Guidance Appendix H along with the species account for peninsular and Nelson's bighorn sheep. These are to be used in developing project and activity design criteria to protect species as described in Standard S11 and Appendix H. All of these documents have management recommendations regarding roads, trails, and dogs in sensitive habitats, and the national forests are committed to implementing the forest plans.

The Forest Service should clarify how it will accommodate an increase in Back Country Motorized (re-named Back Country in final revised forest plan) areas while adding no new road mileage, maintaining existing roads, correcting environmental impacts of roads and preventing the proliferation of unclassified South Coast Wildlands 7 roads (DEIS 3-59). (PC 3781)

The selected alternative more clearly displays the agency's intent for the management of larger landscapes on the four southern California national forests and is reflected by an increase in the land use zones where motorized activities are not going to occur, are restricted to road corridors in many cases due to topography, or where vehicle access is restricted to administrative use only. Refer to table 359: Acres Managed for Motorized Uses as Defined by Land Use Zone, which displays the change from the preferred alternatives to the selected alternative in acreage by land use zone. Road mileage is not expected to increase in the selected alternative, but it is anticipated that some small-scale road

construction may be needed to facilitate a special-use project (e.g., an access road to a communications site).

Roads Analysis (Designations, Mapping, Inventory)

The Forest Service should not close any unofficial trails until it has performed a thorough inventory with public involvement. (PC 1550)

A site-specific NEPA analysis is required to decommission or to add an unclassified trail to the national forest's trail systems. A survey of unclassified roads and trails has recently been completed for the four southern California national forests in accordance with the Region's OHV route designation process and many of the trails used by mountain bikes will have been captured in this inventory although it is likely that there are other unclassified trails that have not been accounted for in the inventory process. Any closures or additions of the unclassified roads and trails will also require involvement by the affected public.

The Forest Service should analyze and clarify which Forest Service roads and trails are especially useful in battling wildfires. (PC 1582)

All roads and trails may be useful in fire suppression at some point. The FEIS, Chapter 3, Wildland Fire and Community Protection, contains a complete discussion and analysis of roads and fire suppression. In summary, properly maintained roads and trails are effective in fire suppression. The evolution of fire suppression in chaparral has produced a firefighting culture that uses large numbers of fire engines to hold fires on roads and fuelbreaks under normal burning conditions, and to protect large numbers of structures within and adjacent to Forest Service jurisdiction during extreme burning conditions typical of late summer and fall wildland fires. Table 314: Estimated Percent of Forest Accessible by Road illustrates the percentage of each national forest that is accessible from the various road systems that are currently inventoried.

Roads and trails in roadless and wilderness areas can still be utilized for fire suppression activities. The use of equipment (such as engines) on roads within wilderness areas may require permission from the appropriate level of authority within the Agency that has been delegated that authority.

The Forest Service should analyze and publicly clarify the trade-off between roads as they benefit fire suppression versus the associated incidence of fires to their presence. (PC 1585)

See Chapter 3 of the FEIS, Wildland Fire and Community Protection, for a complete discussion and analysis of roads and fire suppression. The effects noted in the comments associated with this concern are likewise addressed in Chapter 3 in the section of the resource being affected. In summary, properly maintained roads and trails are effective in fire suppression. Respondents are concerned about vehicle-caused fires but do not agree about a relationship between increased fire starts with increased motorized access. The FEIS notes that the probability of fire starts increasing over time along the various transportation systems that access the national forests will be associated with the anticipated increase in vehicle use along transportation corridors and due to increased growth on private lands adjoining the national forests (Chapter 3, Effects on Wildland Fire and Community Protection). Fires caused by vehicles occur to the greatest degree along the State and County road network. Fire statistics for all four southern California national forests show a very low incidence of vehicle-caused fires (including off-highway vehicles) along National Forest System roads or on National Forest System lands. For example, for the period of 1981 through 1995 there were only three fires directly attributed to an OHV out of a total of over 5,000-recorded fires on the San Bernardino National Forest. Anecdotal information from fire staff also support the very low incidence of OHV caused fires (FEIS, Chapter 3, Effects on Motorized Trails).

The Forest Service should specify a timeline under which roads and trails (identified in the USFWS [2000a]) through key and occupied habitat for the arroyo toad will be analyzed for removal or re-routing. (PC 1589)

Please see the final forest plans, Part 2, for the various Place descriptions, desired conditions and program emphasis areas for each Place. In addition, please see the forest strategies identified for emphasis over the next three to five years. In Part 3 of the forest plan, please see a list of standards that govern national forest management activities, in particular standard S34 and Appendix D - Adaptive Mitigation for Recreation Uses.

Each of the roads identified by the U.S. Fish and Wildlife Service (2000a) has been and will continue to be dealt with on a case-by-case basis at the project level. Specific actions will be documented in the annual Forest Program of Work.

The Forest Service should provide a map or maps showing all primary and secondary roads, jeep tracks, fire roads, fire lanes, fuelbreaks, trails and other transit roads and routes and their present uses. (PC 1600)

Mapping was displayed at each public meeting, and is shown on each National Forest Visitor Map. In addition, during the comment period, the comment web site included interactive mapping which would show the requested information. Information was available upon request through a phone call, fax, email, or letter to the Planning Office. Fuelbreaks are not part of the national forest transportation system and do not appear on National Forest Visitor Maps.

The Forest Service should specify the present use of Gypsum Road. (PC 1617)

Gypsum Road is authorized under a special use permit and is maintained by the permittee.

The Forest Service should clearly define the terms "classified," "unclassified," "designated," and "undesignated" to provide defensible reasons for road closures. (PC 1634)

The FEIS, Appendix J. Glossary, defines classified, unclassified, and temporary roads. The Los Padres NF Strategy uses the word "designate" in the sentence: "Designate routes for motorized use." This means to identify on which routes (roads and trails) motorized use is allowed. The decision to add a specific unclassified road or trail to the system of Forest Service maintained roads and trails is one requiring site specific NEPA, and beyond the scope of the forest plan revision.

The Forest Service should clarify the current classification of National Forest System Road 2N92. (PC 1650)

The one-mile long Green Canyon road that connects 2N93 to Trail 2E18 is currently managed as closed to motorized use. It is available for national forest administrative use for an emergency response, or to complete a national forest community protection project.

The selected alternative 4a zones this area as Back Country Motorized Use Restricted. Current management of the road should continue.

The Forest Service should provide an inventory of 2,700 miles of system roads and 1,300 miles of unclassified roads, and demonstrate the scientific basis for any road or trail closures. (PC 1907)

The complete list of National Forest System Road Maintenance Level 1 through 5 roads is displayed in the Roads Analysis. The map atlas for each alternative showed where zoning would affect existing roads. Tables 292 through 296 numerically list the miles affected by zoning. The decision to close any individual road is subject to site specific NEPA after the forest plans are implemented.

For more information on the roads, see PC 1518 (Roads Management General) and the Roads Analysis materials in the Reading Room.

Road Construction, Reconstruction

The Forest Service should reconsider the notion that fire prevention requires roads and refocus fire efforts strictly on Wildland/Urban Interface. (PC 1586)

The Forest Service has examined the need for existing and potential roads under the revised land use zones and discusses the importance of roads in Chapter 3 of the FEIS, Wildland Fire and Community Protection.

At some point in time all roads have been useful in fire suppression. The FEIS contains a complete discussion and analysis of roads and fire suppression. In summary, properly maintained roads and trails are effective in fire suppression. The evolution of fire suppression in chaparral has produced a firefighting culture that uses large numbers of fire engines to hold fires on roads and fuelbreaks under normal burning conditions, and to protect large numbers of structures within and adjacent to Forest Service jurisdiction during extreme burning conditions typical of late summer and fall wildland fires. Table 314: Estimated Percent of Forest Accessible by Road illustrates the percentage of each national forest that is accessible from the various road systems that are currently inventoried.

The Forest Service should not build roads in Critical Biological areas. (PC 1614)

Please see table 2.3.3 in Part 2 of the revised forest plan for a description of suitable commodity and commercial uses by land use zone. As noted in this table, road construction is not a suitable use in Critical Biological land use zones.

Road Maintenance

The Forest Service should emphasize the importance of an effective road network in the final forest plan. (PC 1519)

Text emphasizing the importance of an effective road system has been added to the appropriate Chapter 3 Affected Environment sections (such as Roads and Wildland Fire and Community Protection) in the FEIS.

The Forest Service should revise the DEIS to include more liberal standards for road maintenance within critical biological areas because road managers may not always be able to effectively maintain roads in the specified periods of least impact. (PC 1521)

The intent of Standard S13 is to protect habitat and the species that occupy that habitat. There is no intent to preclude road maintenance. To clarify that intent, S13 has been modified to: "Manage Critical Biological land use zones so that activities and discretionary uses are either neutral or beneficial for the species and habitats for which the area was established. Accept short-term adverse impacts to threatened, endangered, and proposed species if such impacts will be compensated by the accrual of long-term benefits to habitat for threatened, endangered, and candidate species." As noted in the comment, proper road maintenance is needed for public safety as well as to reduce impacts to the environment. As directed by Standard S25, we will "Conduct road and trail maintenance activities during the season of year that would have the least impact on threatened, endangered, and proposed wildlife species in occupied habitats, except as provided by site-specific consultation." We will use site-specific consultation as needed to provide for road maintenance where such road maintenance cannot be reasonably accomplished during the season of year that would have the least impact on listed and proposed species. As shown on the land use zone maps, there are not that many roads in Critical Biological land use zones.

The Forest Service should facilitate proposed highway maintenance by others, including the County of Los Angeles. (PC 1625)

The comment is correct that operation and maintenance of LA County Roads is not constrained by the Angeles National Forest (ANF) budget; however, the ANF budget limits the range of dollars that may be spent to maintain its system of 1,000 miles of National Forest System roads. The national forests are

located in many counties, and share many common interests with respect to County roads within and adjacent to the national forests. Annual coordination and project specific coordination is essential. The selected alternative (Alternative 4a) in the forest plans does not change the role of public roads and the national forests. For those highways and major roads that are under permitted authorization, the maintenance must meet the criteria that the national forest itself needs to follow to ensure the safety of the national forest user as well as the use being environmentally sustainable. Refer to the FEIS, Chapter 3, Roads section for further discussion.

Trails

The Forest Service should ensure consistency of management for the Pacific Crest Trail between the forest plans. (PC 186)

Specific direction concerning the PCT's management is incorporated in the Place-based direction for the Morena Place, Laguna Place, Aguanga Place, Arrowhead, San Geronio, Big Bear Backcountry Places, as well as Angeles High Country, Soledad Front Country, Santa Clara Canyons, and Liebre Sawmill Places on the Angeles National Forest. A Place Specific Standard has also been added to the direction for all Places in the province that contain the Pacific Crest National Scenic Trail. Management intent is to administer the Pacific Crest National Scenic Trail in accordance with the Memorandum of Understanding between the USDA Forest Service, USDI National Park Service, Bureau of Land Management, California State Parks and the Pacific Crest Trail Association, and the Comprehensive Plan for the Pacific Crest National Scenic Trail.

The Forest Service should incorporate multiple use trails into a system of fuelbreaks on the forests. (PC 245)

Management intent is to supply safe, environmentally sustainable non-motorized trail-based opportunities on official system trails, or in some cases on system trails specifically designated for mountain bike use. Desired Conditions under Transportation Systems, Non-motorized Trails in Part 1, and the Program Strategies and Tactics for Transportation Systems, in Part 2 address the national forest commitment to shared-use trails that support environmentally sustainable recreation. Place-based direction in Part 2 and the Adaptive Mitigation for Recreation Uses (Appendix D Part 3) further highlight this intent and supply project level mitigation tactics for resolving resource and user conflicts. In general, non-motorized use, including hiking, mountain biking and equestrian use is suitable in all land use zones. (Mechanized forms of transport (mountain biking) are prohibited in designated wilderness by the Wilderness Act of 1964.) The decision to construct a non-motorized trail link to an existing fuelbreak, close a trail, decommission a trail or road, segregate use, implement on-site controls, or convert a particular road to a non-motorized trail would be analyzed and determined through site-specific analysis with full public participation. The Program Strategies and Tactic for Recreation, under Public Uses and Enjoyment, Part 2 express the national forests' commitment to volunteerism and partnerships (see Conservation Education).

The Forest Service should mention the Coast to Crest Trail, including the Santa Ysabel Truck Trail, address how and where connections to other trails would be made, and mention the San Dieguito River Park's Conception Plan because the Joint Powers Authority's (JPA) comments to the Notice of Intent do not appear to be addressed in the land management plan. The JPA comments included detailed focus on non-motorized trail connections through the CNF and uncontrolled target shooting at Orosco Ridge. (PC 557)

In contrast to earlier land management plans, the new forest plan for the Cleveland National Forest is intended to supply strategic and programmatic direction. Land use zoning is used to define suitable land management activities such as new trail construction, motorized, non-motorized, and motorized access for administrative and permitted use only. In general, conversion of roads to hiking trails is suitable in all land use zones; however, the decision to construct new trails or to convert a particular road (such as the Santa Ysabel Truck Trail) to a hiking trail would be analyzed and determined through site-specific

analysis. A detailed focus on non-motorized trail connections through the San Dieguito/Black Mountain Place (including the disposition of any particular trail or road) is not within the scope of this forest plan.

Based on public comment, the Back Country Non-Motorized zoning displayed in Alternative 2 of the draft plan has been refined or expanded in many areas of the Cleveland National Forest, including the Black Mountain/San Dieguito Place. The Program Emphasis for the Black Mountain/San Dieguito Place has also been refined to clearly articulate the national forest's commitment to regional open space planning efforts, such as the San Dieguito River Park Focused Planning Area concept plan (see Part 2).

In the area around Orosco Ridge, the zoning displayed in Alternative 2 has been adjusted to retain motorized public access along primary routes, maintain unroaded, undeveloped conditions in between road corridors, and allow for motorized administrative access where management needs or permitted uses occur. Zoning for the Lower Santa Ysabel Road corridor has been changed from Back Country Motorized to Back Country Motorized Use Restricted to address the demand for community trail networks. The zoning in the area directly north of Ramona has been changed from Back Country Motorized to Back Country Non-Motorized because this area is unroaded and unsuitable for road construction. No roads are planned for this area. The spur road off Orosco Ridge that runs into Boden Canyon Ecological Reserve has been changed from Back Country Motorized to Back Country Motorized Use Restricted.

The new forest plan for the Cleveland National Forest provides for recreational target shooting at designated sites or areas. See the recreational target shooting discussion in Chapter 3 of the FEIS and tables 273 to 277 for further information about the location and number of target shooting sites on each national forest. Specific management for the area around Orosco Ridge would be analyzed and determined through project level analysis.

The Forest Service should recognize the significance of the California Riding and Hiking Trail. (PC 1651)

The program emphasis concerning the California Riding and Hiking Trail, equestrian use, and desired connections to local community trail systems is described in the Setting, Desired Condition and Program Emphasis sections in the Place-based direction found in Part 2 of the new forest plan(s). Desired Conditions under Transportation Systems, Non-motorized Trails in Part 1; and the Program Strategies and Tactics for Transportation Systems, in Part 2 also address the importance of linking the non-motorized trail system to community networks.

The Forest Service should not interconnect trails. (PC 1655)

In contrast to earlier land management plans, the new forest plans are intended to supply strategic and programmatic direction. Land use zoning is used to define suitable land management activities such as motorized use, non-motorized use, and motorized access for administrative and permitted use only. The decision to construct new trails or to convert a particular road to a hiking trail would be analyzed and determined through site-specific analysis, including public notification. A detailed analysis or decision regarding specific non-motorized trail connections is not within the scope of this forest plan. However, management intent is to make incremental changes to all trail systems for the improvement of trail opportunities in the selected alternative.

The Forest Service should clarify which roads are necessary for fire management, and which roads are causing natural resource disruptions. (PC 1657)

The revised forest plans are strategic in nature and not site-specific. The FEIS, Chapter 3, Roads section discusses the importance of roads for fire suppression needs. Through the project-level roads analysis process, national forests will be determining the need for unclassified roads. This site-specific analysis will determine which roads are causing resource damage.

The Forest Service should re-evaluate unnecessary route closures under Alternative 6 because most existing routes are already sacrifice zones to the motorized recreation industry. (PC 1678)

The commenter suggests that Maintenance Level (ML) 2 roads proposed for closure under Alternative 6 be retained for motorized use since they are already heavily impacted by vehicular traffic. (We have used the term "route" to be accurate as these are not "trails.") The FEIS clarifies the intent of the alternative, which is to retain the ML 1 and 2 road systems for fire suppression access and vegetative management activities. The alternative selected (4a) also takes this into consideration with the application of the Back Country Motorized Use Restricted zone. This zoning identifies roads on the national forests that will be retained for administrative purposes (e.g., for fire suppression activities) but not be open to public vehicular travel.

The Forest Service should improve management of the Pacific Crest Trail. (PC 1884)

The 324-mile segment of the Pacific Crest National Scenic Trail (PCT) is recognized as a major non-motorized recreational feature in the national forests through which it traverses (Angeles, San Bernardino and Cleveland National Forests). The FEIS indicates that the PCT is generally in better condition than other non-motorized trails. Demand for the PCT is expected to increase. Like other non-motorized trails, the PCT will be managed to improve its environmental sustainability. The national forest niche statement contained in Part 1 of the revised forest plan recognizes the need to continue providing a high-quality recreation setting for the PCT. The Transportation Management section of Part 2 of the forest plan contains a tactic to manage the PCT to protect the trail experience, and provide for the conservation and enjoyment of its nationally important scenic, historic, natural and cultural qualities. Areas surrounding and viewed from the PCT will be managed to achieve a High Scenic Integrity Objective (SIO); wilderness landscapes viewed from the PCT should remain natural, managed to achieve a Very High SIO.

The Forest Service should clarify how it will close trails, roads and trailheads yet increase dispersed recreation accommodation. (PC 4503)

In both Alternatives 4 and 4a, forest plan emphasis is on sustainable recreation opportunities. In Alternative 4, the approach is through focused attention to facilities, while in Alternative 4a the focused attention is on the recreation setting. Achieving this sustainability is accomplished by taking care of existing opportunities including review of non-system trails and roads. Those may or may not be incorporated into National Forest System trails and roads after further analysis. Regardless of the zoning distribution, the national forest will maintain and expand sustainable opportunities to achieve a balanced range of recreation opportunities within budget and needs. The differences in the estimates for expansion of recreation opportunities between alternatives only reflect the relative focus on meeting expanded anticipated demand.

National Scenic Roads and Trails

The Los Padres National Forest should follow the Big Sur Coast Highway Management Plan's management strategies where applicable, unless deviation is warranted to better protect the Scenic Byway's intrinsic values. (PC 2407)

The revised forest plans have been developed so that they are, for the most part, compatible with the plans and policies of other government organizations including the Big Sur Coast Highway Management Plan. The Los Padres National Forest recognizes the importance of the Coast Highway and intends to continue to participate in partnerships with other agencies, groups and local residents to assist in the implementation of the Corridor Management Plan (CMP) for the Coast Highway.

In Part 2 of the revised forest plan, the management emphasis for the Big Sur Place identifies actions anticipated in the next few years, including those activities that are expected to play a role in the implementation of the CMP.

The Angeles National Forest should keep Ridge Route as a historical road. (PC 2408)

The Old Ridge Route on the Angeles National Forest has been formally designated for inclusion within the National Register of Historic Places. The Angeles National Forest recognizes its historic significance, and is working with other agencies, private companies, and the interested public in preserving the Old Ridge Route as a historic travelway for the enjoyment of the general public. A recent partnership with the 4-wheel drive community has resulted in interpretation signs being installed along the Old Ridge Route. The Old Ridge Route is in the I-5 Corridor Place.

The Forest Service should accurately state how many miles of unclassified trails there are and how many of these miles have the potential of an historic designation or can be added to the inventory as classified. (PC 2410)

There are a total of 451 miles of unclassified (non-system) trails for all four southern California national forests (see Chapter 3, Affected Environment, Non-Motorized Trails; and table 106: Miles of Inventoried Trails by Forest). Some of the unclassified trails may qualify for historic designation but, on a whole, these unclassified trails have not been evaluated for the potential for historic designation. Some of these trails may become system trails through project level evaluation and others will not because they either are not needed or are not sustainable.

Trails Construction, Reconstruction

The Forest Service should convert former roads into legal trails and maintain them as such. (PC 1639)

Part 2 (the Strategies for each national forest) discusses strategic program emphasis and objectives regarding the options available for road to trail conversions. See the Part 2 documents for each national forest, in particular, Trans 1 and Trans 2. The decision to convert old roads to trails that are maintained by the national forests needs to be completed on a site specific basis. This is one of many options available to District Rangers to decide the suitable use for an individual road or trail. Not every abandoned road will become a trail. Through analysis, if one is recommended, and maintenance funding is available, it could be added to the system of maintained trails. Some deteriorated old roads that are analyzed and serve no purpose, or pass through areas of environmental sensitivity may be candidates to decommission.

The Forest Service should articulate how lack of a trail accessing Westfork/Westfork Inventoried Roadless Area is a constraint or encumbrance because access can be mitigated by the creation of a trail as needed. (PC 1684)

Forest Service policy for identifying and analyzing potential wilderness in the National Forest System is contained in the Land and Resource Management Planning Handbook, Chapter 7, dated 8/3/92 (FSH 1909.12). Many of the Inventoried Roadless Areas (IRAs) and undeveloped areas on the national forests in southern California have low to moderate wilderness capability (7.21) and availability (7.22) because of constraints and encumbrances, manageability issues and (7.21(5)), boundary considerations (7.21(5)a. to e.), and existing constraints and encumbrances.

Constraints and encumbrances are elements that diminish the degree to which the Forest Service can control the surface and subsurface of the area. For example, the 500 kV Southern California Edison transmission line that traverses through the western section of the Westfork IRA lessens the ability of the Forest Service to prevent development of difficult to resolve, incompatible uses within the area. The Cogswell Dam and the LA County sediment disposal just outside the boundary of the IRA relate to the manageability of the area for wilderness, specifically the consideration of how well the boundaries "act as a shield to protect the wilderness environment inside the boundary from the sights and sounds of civilization outside the wilderness" (5.d.). Cogswell Dam and the sediment site also may "result in demands to allow nonconforming structures and activities in the wilderness" (5.a). Minimal access points indicate that the boundaries do not "provide adequate opportunity for access and traveler transfer facilities." Where thick, impenetrable vegetation makes access impossible, the lack of existing trails

diminishes opportunities associated with challenge (7.21 (2)). In combination, these factors are balanced along with the other evaluation criteria to determine whether or not the area should be recommended for wilderness (see Angeles National Forest Wilderness Evaluations, Reading Room).

The Forest Service should create a loop for returning to the starting point when Forest Service trails lead into private property. (PC 1686)

The creation of trail loops is utilized on project specific analysis and usually examined as trail construction or reconstruction is reviewed. Based on public comment from individuals, organized groups, and other agencies, management intent is to link non-motorized system trails with community trail networks and improve day-use recreational opportunities. Desired Conditions under Transportation Systems, Non-motorized Trails in Part 1, and the Program Strategies and Tactics for Transportation Systems, in Part 2 address the Agency's commitment to environmentally sustainable trail-based recreation, resolution of user conflicts, and the intention to develop an integrated non-motorized trail network. The decision to construct new trails or trail links, reroute a trail, or to convert a particular road to a hiking trail is to be evaluated and determined through site-specific analysis, which will include notification of interested or effected, individuals, groups, and agencies.

Trails Maintenance

The Forest Service should address in their alternatives that the trails maintenance program level (LPNF Plan, Part 2) is inadequate to prevent disrepair and eventual closing of existing trails. (PC 1674)

Under all alternatives, funding levels will affect the timing of accomplishing trail-related objectives as well as the need for program support from non-traditional sources such as volunteerism, grants and partnerships. The estimate of approximately 60 miles of maintenance annually on the Los Padres National Forest is based upon the actual accomplishments that have been reported over the past three years. Those estimates would mean the average time for routine maintenance would be about every 12 years. The selected alternative would have an increased emphasis on partnerships, grants and volunteers that could offer some increase in this frequency. The emphasis within the recreation program will be on creating a sustainable range of trail-based opportunities.

Trails Removal and Decommissioning

The Forest Service should close or convert to non-motorized use, unofficial off-road vehicle trails, unused trails, or roads that degrade streams or endanger species. (PC 1694)

The decommissioning of the unclassified road and trail networks that are on the national forests are site-specific actions that will require a NEPA analysis for any action to be undertaken. The conversion of some of these facilities to non-motorized used is one of the options that would be considered with any decommissioning proposal.

The Forest Service should provide the studies which support the contention that "A decrease in trail mileage may result in an improvement in trail conditions." (PC 1695)

The discussion in the FEIS regarding the potential to improve trail condition by reducing the overall trail mileage that is available for use is an assumption that was used to help describe the potential effects on the activity.

The Forest Service should clarify its closure plan for unauthorized roads and trails. (PC 1697)

The closure and decommissioning of unclassified or unauthorized roads and trails require a site specific NEPA analysis and are outside the scope of the FEIS. Planning for the decommissioning or retention of individual roads or trails would occur on an annual basis and would be done at the district or forest level. Currently, the national forests decommission approximately 8 miles of unclassified roads per year. This level of decommissioning is anticipated to continue through the next 10 to 15 years. Mechanized

recreation will be restricted to National Forest System roads and trails designated for this use. Mechanized use on unclassified roads and trails is a form of off-road vehicle use and will be prohibited under the revised forest plans.

Non-motorized and non-mechanized

The Forest Service should protect the Pebble Plains in Big Bear but leave all existing, non-redundant trails open to hikers and horsemen. (PC 309)

Trail use is appropriate on all National Forest System trails. Unclassified (non-system) trails will be analyzed and their suitability for inclusion in the National Forest System trails determined in the future on a project by project basis. Based on public comment, the Back Country zoning displayed in Alternative 4 has been refined to include Back Country Non-Motorized and Back Country Motorized Use Restricted zoning within the Big Bear Place in Alternative 4a. Existing and new recommendations for special designations such as special interest areas, research natural areas and wilderness along with Critical Biological zoning would also increase protection of this rare habitat type in this alternative. In all of these locations, access on National Forest System trails would be retained for both hiking and equestrian access.

The Forest Service should consider the effects of opening the area through the proposed San Gorgonio Wilderness addition will have on security of private landowners. (PC 313)

Regardless of how the surrounding National Forest System land is classified in the selected alternative of the final forest plan, including recommended wilderness, there will be no change in public access to the Oak Glen area.

Mountain Biking

The Forest Service should reconsider the reliability of studies regarding the effects of mountain bikes on erosion, wildlife and vegetation compared to hiking. (PC 259)

The FEIS addresses the consequences of non-motorized trail activities on other resources (see Chapter 3, under the section of the resource being affected). The activities are considered as a whole rather than being caused by various reasons. We are aware that some uses create more of an impact than other uses; however, it is the effect overall on the trail that is of consequence. Equestrian, hiking and mountain bike use are all allowed on the majority of the trails on each national forest.

The decision to close, reroute or realign a system trail or to designate a particular trail within the authorized trail network for a specific use (such as mountain biking or horseback riding) will be analyzed and determined through site-specific analysis.

The Forest Service should modify the plans to allow bicycling in Critical Biological zones and should address conflicts between recreation and the ecosystem with constructive management measures because the impact of bicycling on natural resources is about the same as the impact of hiking. (PC 261)

Based on public comment, mountain bike use has been reclassified as suitable in Critical Biological zones (see suitable uses tables in Part 2 of the forest plan). Mountain biking on designated roads and trails is suitable in all land use zones except existing and recommended wilderness or as otherwise restricted (e.g., Pacific Crest Trail). A site-specific National Environmental Policy Act (NEPA) decision would be needed to restrict mountain bike use from a Critical Biological zone. Federal law prohibits mechanical forms of transport in designated wilderness.

Management intent is to supply mountain biking opportunities on official system trails, or in some cases on trails specifically designated for mountain bike use. Desired Conditions under Transportation Systems, Non-motorized Trails in Part 1; and the Program Strategies and Tactics for Transportation Systems, in Part 2 address the Agency's commitment to environmentally sustainable trail-based recreation.

Based upon comments received, Appendix D, Adaptive Mitigation for Recreation Uses, in Part 3 of the forest plan has been expanded to include conflicts between users and any resource value that puts sustainability at risk. When impacts (whether social or natural resource) are detected, the mitigation protocol (Appendix D) provides the guidance to rectify the conflict. This would include situations where safety issues occur.

The Forest Service goal for mechanized recreation should be focused on the management and use of current areas until such time an environmentally sustainable balance of activity and preservation can be assured because expansion of access without that confidence will result in the inevitable loss of valued and sensitive habitat and of the natural character of the environment. (PC 262)

In accordance with the Government Performance and Results Act Priority Goals, the national direction for the Forest Service is to "Provide high-quality outdoor recreational opportunities on forests and grasslands, while sustaining natural resources, to help meet the nation's recreation demand" (USDA Objective 5.1). Specifically, the goal is to "to continue to provide additional recreation benefits without experiencing unacceptable impacts to resources." The direction is to help meet demand by implementing effective management. Management intent for the four southern California national forests is to continue to supply a wide variety of recreational opportunities. Further development of motorized or non-motorized trail systems will require site-specific NEPA analysis and is outside the scope of the FEIS.

The Agency's commitment to environmentally sustainable trail-based recreation is addressed in Desired Conditions under Transportation Systems in Part 1, and the Program Strategies and Tactics for Transportation Systems in Part 2 of the forest plan. Place-based direction in Part 2 of the forest plan and the Adaptive Mitigation for Recreation Uses appendix further highlight this intent and supply project level mitigation tactics for resolving resource and user conflicts (Appendix D, Part 3). Alternative 4a has a strong emphasis on sustainability and will be the program emphasis for recreation.

The Forest Service should keep the Palm Canyon Trail and its surrounding trails and the Santa Ana River Trail open to mountain biking. (PC 276)

The new forest plan for the San Bernardino National Forest is intended to supply strategic and programmatic direction. Land use zoning is used to define suitable land management activities such as motorized use, non-motorized use and motorized use for administrative and permitted use only. Based on roadless area evaluations and public comment, the Back Country Non-Motorized (BCNM) zoning displayed in Alternative 4 of the draft forest plan has been refined or expanded in many areas of the national forest under the final revised forest plan. Management intent for this area is to maintain their unroaded, undeveloped, natural character but allow for non-motorized public access and a full range of non-motorized management activities (i.e., projects for community defense) as well as popular, non-motorized recreation activities, including mountain biking.

The Palm Canyon Trail will remain open for mountain bike use. The selected alternative does include an expansion of the San Jacinto Wilderness (Pyramid Peak IRA), including small sections of this trail. Based on public comments, management intent is to relocate those sections of trail into an adjacent BCNM corridor that has been included to accommodate mountain bike use. The Santa Ana River trail will continue to be zoned and open for mountain bike use.

The Forest Service should allow mountain biking on the San Juan Trail, Maple Springs, Harding Truck Trail, Santiago Truck Trail, and Santa Ana River Trail, among others. (PC 297)

Most of the popular biking trails on the Trabuco Ranger District, including the San Juan Trail, Maple Springs, Harding Truck Trail, and Santiago Truck Trail will remain open for mountain bike use. Further expression of management intent for this area is contained in the program emphasis and desired condition for the Silverado and San Mateo Places in Part 2 of the forest plan.

The existing multi-use Palm Canyon 4E01 trail would not be able to continue to provide mountain bike recreation opportunities if the proposed wilderness boundary was extended east to the national forest boundary for the full Inventoried Roadless Area. However, this boundary has been adjusted back to the bottom of Palm Canyon. As a result, almost all of the Palm Canyon Trail has been excluded, except where it intersects at several locations with the proposed wilderness boundary at the bottom of Palm Canyon. At those intersections, estimated to be approximately 3/4 mile in length, the trail will, over time, be relocated to the east to preserve this important mountain biking corridor.

The Santa Ana River trail starts outside the Cleveland National Forest boundary near the Prado Dam north of the city of Corona and heads 30 miles southwest to the ocean. The trail corridor is not under Forest Service jurisdiction.

Motorized Recreation

The Forest Service should prohibit or restrict OHV and/or motorized recreation use including non-system roads and trails, including in the following locations: near Pinon Hills; near Juniper Hills; Mojave Front Country and San Bernardino Front Country; near Wrightwood; Elsmere Canyon, Whitney Canyon, and Placerita Canyon; on the Merrill Trail; in Silverado Canyon; on the connecting road starting at the "T" intersection at Orosco Ridge to Boden Canyon (12S3); in the Cuyamacas and Laguna areas; Rock Front Ranch on Highway 166; the Cuesta Ridge and Sierra Madre Ridge areas; in all four national forests. (PC 1705)

Please see the response to PC 4507 (Motorized Recreation) regarding treatment of OHV management in the alternatives, including in the selected alternative; PC 1944 (Recreation Management, Recreation Opportunities, ROS) for discussion regarding how land use zoning affects the ability to provide different types of recreational activities and to separate uses, if needed, to reduce conflicts between various activities; and PC 4523 (Motorized Recreation) regarding the consideration of the effects of OHV use.

Some of the concern focuses on protection of resources including riparian areas. It is through land use zoning, not standards, that the forest plan identifies uses that are suitable in each area. Management direction to protect riparian areas is provided in the forest plan in Part 1 (Goals 5.1 and 5.2); Part 2 (land use zoning and strategies); and Part 3 (standards).

Some commenters wish to prohibit motorized use in certain areas. Motorized use is the primary way the majority of national forest visitors access the national forests. The national forests are anticipating the need to apply capacity limits in some locations and possibly during certain high use times, which would reduce the number of vehicles that could enter a given location, in order to reduce the effects to local resources and to retain a high quality recreational experience.

As described in Chapter 2 of the FEIS, under the selected Alternative 4a, zoning and management direction will support improvements to the existing system that focus on sustainable opportunities for long distance routes, but the level of construction can be characterized as low. Management is committed to resolving the problem of non-system user created routes through elimination of such routes over time. Closure of the unclassified road and trail network will require public collaboration and site-specific NEPA analysis that is outside the scope of the revised forest plan. Unlawful off-highway vehicle use or off-road vehicle use are day-to-day operational issues that would be addressed at a local Ranger District or national forest level and are also outside the scope of the FEIS.

Other commenters focus on prohibiting or restricting OHV use and mention a number of specific locations of particular concern. Some respondents were concerned about possible construction of a motorized trail near the Pinon Hills or Wrightwood communities. Designation of any additional OHV routes is outside the scope of the forest plan revision. However, the final revised forest plan does zone some of the landscape in the Mojave Front Country Place as Back Country, which allows motorized use (see Land Use Zone map in Part 2 of the forest plan). In this specific case, the national forest intends to propose long distance travel opportunities for OHV use on designated routes and a linkage with the San

Bernardino National Forest in the Baldy Mesa area if feasible. This proposal would be separate from the forest plan revision and require a site-specific NEPA analysis before any change could occur from the existing condition. Regarding motorized use of the [JPL] road north of Wrightwood, unless closed by Forest Order, national forest roads in this area are open to vehicle access by the public. The selected alternative identifies some of these roads as Back Country Motorized use Restricted, which would limit the type of motorized access to administrative traffic only, but retain access for mountain bikes, equestrians, and hikers.

Another respondent was concerned about adding OHV access south of the Juniper Hills community. Much of the area south of Juniper Hills is zoned as Back Country Non-Motorized in the selected alternative. The Devil's Punchbowl County Park is located within a part of the Angeles National Forest that is zoned for non-motorized use. Designated OHV routes are retained and are primarily located west of National Forest System Road 4N15.

Regarding the Mojave Front Country and San Bernardino Front Country, areas in these Places that were evaluated for wilderness were not recommended for designation in the selected Alternative 4a for the Angeles or San Bernardino National Forests. However, the majority of the San Bernardino Front Country Place is designated as Back Country Non-Motorized with vehicular use being restricted to National Forest System roads. Refer to Part 2, San Bernardino Forest Plan, San Bernardino Front Country Place description. In the selected alternative, the Mojave Front Country is in a mix of Back Country, Developed Area Interface, and Back Country Motorized Use Restricted zoning in order to provide for long distance travel opportunities for off-highway vehicles but also to protect sensitive resource areas. Please refer to the Mojave Front Country Place description in Part 2 of the forest plans for both the Angeles and San Bernardino National Forests.

Elsmere Canyon, Whitney Canyon, and Placerita Canyon: The roads and trails identified in the respondent's letter are being retained for hiking, mountain biking, and equestrian opportunities with National Forest System Roads 3N54, 3N56, 3N64, and National Forest System Trail 15W03 being zoned in Back Country Motorized Use Restricted in the selected Alternative 4a. Roads in Whitney and Elsmere Canyons are located outside the national forest boundary and are managed for administrative access for transmission line service. Roads into Placerita Canyon State Park are county facilities and will remain open for general public access. Road 3N17 will remain open for public use up to the intersection with 15W02. Much of the area mentioned by the respondent is zoned as Back Country Non-Motorized or as Back Country Motorized Use Restricted in the selected alternative. Vehicle access is restricted to National Forest System roads and is further restricted to administrative use only. Motorized access is restricted to National Forest System roads in these locations. OHV use is restricted to designated roads and trails in the Rowher flat area.

The San Gabriel Canyon OHV area varies in size from approximately 30 to 160 acres depending upon the level of water retained within the reservoir. Further expansion of the OHV area is not being proposed and is impractical given other constraints that impose limits on motorized use. For example, the geographic confines of the reservoir bottom and the associated species issues in the main and east of the San Gabriel River prevent further development of OHV opportunities in the area. Site-specific actions, such as water monitoring (or treatment) for hydrocarbon pollutants is appropriate to be addressed by the local District and is beyond the scope of the forest plan.

The selected alternative designates the area where the Merrill Trail is located as Developed Area Interface (DAI). Currently, there are no roads or trails in the area that are designated for OHV use and none are planned for designation in the future.

Under the selected alternative, the Silverado Canyon Road, the Maple Springs Road (NFSR 5S04) and the North Main Divide Road (NFSR 3S04) would remain open for public access by highway-licensed vehicles. There are no plans to designate these roads for off-highway vehicle use. The non-motorized land use zoning adjacent to the road corridors is reflective of management's intent to retain much of the

national forest in an undeveloped character for species and watershed protection. More specifically, Silverado Canyon Road is a county road that would continue to provide access into the canyon and is outside the jurisdictional management of the Forest Service. Maple Springs Road is under Forest Service jurisdiction and is currently managed with a seasonal closure for the protection of the southwestern arroyo toad from April 1st through September 30th of each year. This road is also subject to additional closure for resource protection, mainly from inclement weather that would affect road surface, from November 1st to May 15. The North Main Divide Road is also subject to the same seasonal road closure for resource protection.

Motorized access is restricted to National Forest System roads in the area west and south of Sierra Peak on the Cleveland National Forest. The selected alternative designates much of the landscape outside of the road corridors as Back Country Non-Motorized or as Back Country Motorized Use Restricted. Off-highway use is restricted to designated routes in the Wildomar OHV Area which is at the southeast portion of the district.

National Forest System Road (NFSR) 4S03 from the national forest boundary in Boden Canyon east to the junction with NFSR 12S02 is zoned as Back Country Motorized Use Restricted in the selected alternative and would limit motorized use to administrative traffic only. NFSR 4S02 is zoned as Back Country and would remain open to public use. 4S02 and 4S03 are currently designated for use by off-highway vehicles. Removal of the OHV designation on 4S02 would require a site-specific NEPA document to be completed after the revised forest plan goes into effect to make any changes to the type of use that this road is designated for.

One commenter requests restriction of motorized access through the Rock Front Ranch on Highway 166 based on concern about lack of staff to monitor OHV use. The selected alternative restricts motorized access to National Forest System roads and designated trails. Vehicles that are registered as off-highway vehicles are further restricted to roads and trails that are designated for this use. Staffing issues related to the management of the activity are outside the scope of the FEIS.

The Cuesta Ridge area is predominately zoned as Back Country Motorized Use Restricted with the exception of National Forest System Road 29S28 which will remain open to public access. There are no designated OHV routes in the area nor is there any intent to introduce this activity. Motorized use on FSR 29S28 is restricted to highway licensed vehicles. In the Sierra Madre Ridge area, motorized use is restricted to National Forest System roads. Much of the area north of National Forest System Road 5N12 is zoned as Back Country Motorized Use Restricted which limits motorized access to the agency and to special-use permittees for administrative purposes.

The Forest Service should keep the current (or lower) level of acres zoned as Back Country and not increase potential for motorized use in the forest such as off-highway vehicles or additional roads added to the system. (PC 4507)

Off-highway vehicle (OHV) use is a legitimate recreational activity on National Forest System lands. All of the alternatives provide for some level of motorized use on roads and trails that are designated for off-highway vehicle use. It is important to emphasize that motorized use is restricted to designated roads, trails and areas in all alternatives. See the general land use zone response (PC 9998 Land Use Zoning and Overlays, Place-based Program Emphasis) in this appendix for a discussion about land use zone changes made in response to comment. The selected alternative proposes to improve OHV opportunities by making incremental changes to the existing systems over time with an emphasis on long-distance travel opportunities. Information from the State of California regarding future OHV use indicates that demand for the activity and the need for additional facilities is expected to increase over the planning period (FEIS, Chapter 3, Affected Environment, Motorized Trails section). As discussed in the Motorized Trail section, many of the national forest OHV systems do not provide the type of opportunities that enthusiasts come to the national forests to enjoy. Further development or designation of off-highway vehicle routes will require site-specific NEPA analysis (and associated public involvement) to make improvements to the

existing systems. Project analyses would address the environmental, social and economic concerns raised as associated with motorized use. Parameters that guide the planning and design process for further OHV development need to be carefully followed in order to not replicate many of the management concerns associated with the existing systems.

The Forest Service should recognize the problems associated with motorized forest use including impacts to neighboring communities and other recreationists including safety and noise pollution, natural resources including air pollution, invasive species, as well as impacts from lack of effective regulation and increased fire ignitions, particularly during drought. (PC 4523)

The agency acknowledges that there can be management difficulties associated with the OHV activity as noted most recently by the Chief of the Forest Service. The Chief specifically called attention to problems associated with unmanaged recreational activities and their effects on other forest resources. This acknowledgement has resulted in stronger national direction in the form of new regulations that govern the use of OHVs on National Forest System lands and will be applied to the four southern California national forests in concert with other existing OHV regulations, direction, and policy.

The forest plan direction is to restrict motorized uses to designated roads and trails. Cross-country vehicle travel will be prohibited with the exception of the small open areas on the Angeles and Cleveland National Forests where this activity is authorized to occur. The revised plan goes on to further describe and display management's intent by more accurately depicting how the ground is actually intended to be managed, such as zoning steep, rugged terrain as Back Country Non-Motorized and zoning area intended for continued administrative access only as Back Country Motorized Use Restricted. Law enforcement staffing and enforcement of regulations that affect National Forest System lands are day-to-day operational issues and are outside the scope of the forest plan.

The effects noted in the comments associated with this concern are addressed in Chapter 3 of the FEIS in the section of the resource being affected. We have added discussion of the effects of noise on recreation. Please see the response to PC 1585 (Roads Analysis (Designations, Mapping, Inventory) regarding fire ignition and motorized access.

One respondent contends that dispersing OHV use to reduce impacts is unsubstantiated and will result in irreparable harm to National Forest System lands. The ability to disperse or separate different recreational uses can be an effective method to reduce conflicts. Field observations from OHV managers on the Angeles, Los Padres, and San Bernardino National Forests indicate that the ability to disperse motorized use over a system of designated routes that incorporate design features such as adequate mileage, a variety of difficulty levels, loop trails, and good access assists with the management of the activity by providing the types of riding opportunities that enthusiasts enjoy.

The Forest Service should keep areas open and not restrict off-road motorized use in the southern California national forests including locations: on the Cleveland National Forest; in Azusa Canyon, Cajon Pass and Baldy Mesa areas; the San Sevine Road and Lytle Creek/Cajon Pass area; in the San Gabriel Canyon OHV Area. (PC 4537)

The selected alternative restricts motorized use to roads and to some trails that are designated for motorized use. Off-highway vehicle use is further restricted to roads and trails that are designated for use by non-highway licensed vehicles and to the limited open areas on the Cleveland and Angeles National Forests. Some of the roads on all the four southern California national forests have been rezoned as Back Country Motorized Use Restricted to more accurately reflect how these facilities are managed; otherwise, the remainder of National Forest System roads are open to vehicular traffic. (See table 333: Comparison of Alternative Acres by Land Use Zone.) Discussion about increasing demand for and management of motorized recreation is discussed in Chapter 3 of the FEIS, Motorized Trails. We acknowledge the valuable contributions of volunteers, including those that assist with OHV projects, see the response to PC 112 (Collaboration (public, organizations)).

Regarding the specific request to keep opportunities open on the Cleveland National Forest, please refer to Part 2 of the forest plan for the Cleveland National Forest for discussion regarding improvements to the OHV systems in the Morena and Elsinore place descriptions. Issues associated with the rights-of-way situation constrain access to the national forest. Please refer to the Transportation section of the FEIS for additional discussion regarding accessibility to the national forest.

San Gabriel Canyon and Baldy Mesa are zoned as Back Country in order to retain the designated OHV opportunities that are available in these locations. The roads in the Cajon Pass area are open for highway-licensed vehicles with limited designations for non-highway licensed vehicles on Baldy Mesa and Cleghorn Ridge.

The San Sevaime road will remain open to public use under the selected alternative. A seasonal closure is in effect on this road for resource protection from November 1st through May 1st.

Site-specific project planning or decisions are outside the scope of the forest plan. Curtailment of motorized activities within the San Gabriel OHV area is not being proposed under the selected alternative. Refer to the District's management plan for the area for management direction. Also, please refer to the responses to PC 800 (Land Use Zoning and Overlays, Place-based Program Emphasis) and PC 1705 (Motorized Recreation) regarding additional information about San Gabriel OHV Area.

The Forest Service should not restrict motorized access to the Holcomb Creek or Deep Creek areas with Wild and Scenic status nor eliminate the chance of connecting unclassified routes to the system that could improve OHV enthusiast safety and opportunities. (PC 4541)

The selected alternative retains the area in question as Back Country and will continue to allow motorized access via the National Forest System roads and trails. Bear in mind that the San Bernardino National Forest has completed a Wild and Scenic River (WSR) eligibility inventory and determined which rivers are eligible (e.g., are free-flowing and have at least one "outstandingly remarkable" river value) but has not yet completed the suitability study, which is the phase when the national forest will decide whether to recommend eligible rivers to Congress for addition to the National Wild and Scenic River System and at what classification (wild, scenic or recreational). The forest plan direction protects the eligibility of these rivers in the interim. The section of Holcomb Creek east of National Forest System Road 3N16 to Hitchcock Ranch was determined eligible, with a potential classification of "scenic." Forest plan direction will not affect the current types of activities that occur, in particular the Holcomb Creek Jeep Route, 3N93. The section of Holcomb Creek from 3N16 west to the confluence with Deep Creek was determined eligible, with a potential classification of "wild." If recommended to and approved by Congress, a wild river designation would continue to allow existing uses, which include the ATV/motorcycle trail, 1W17.

National Forest System Roads 3N07 and 3N32 are currently connected via an unclassified road that accesses patented mining claims. At this time, the rights-of-way status across these claims is not known but the feasibility of utilizing this road as a bypass around the most difficult John Bull 4-wheel drive route (3N10) would require a site-specific NEPA analysis to bring this facility into the classified road system and designate it for off-highway vehicle use. Making any site-specific decisions such as route designation is outside the scope of the forest plan.

The Forest Service should establish a designated zone for low-impact motorized use. (PC 4544)

See the response to PC 9998 (Land Use Zoning and Overlays, Place-based Program Emphasis) regarding clarification of land use zones in response to comment. Most of the national forests' transportation systems are open for use by highway-licensed vehicles and fit well with the commenter's suggestions regarding low impact uses and the ability to access National Forest System lands. Off-highway vehicle use is restricted to roads and trails that are designated for use by non-highway licensed vehicles and to the few designated open areas on Angeles and Cleveland National Forests. Enforcement of regulations that

affect National Forest System lands are day-to-day operational issues that would be addressed at a local Ranger District level and are outside the scope of the FEIS.

The Forest Service should address in the DEIS the possible motorized trails that will be impacted by the zoning and management changes in the Forest Plan. (PC 4547)

The FEIS does not make any site-specific route construction or relocation decisions in the forest plan but designates land use zones based on comments received during the response period and based on the management intent for an area. For all alternatives, any route(s) that are affected by land use zoning changes will require a site-specific NEPA analysis to approve a relocation or the development of a new route as a replacement for an existing designated route that may now be incompatible with the land use designation. Until that time, the type of use that is currently authorized on the route remains in effect and can continue to occur. Site-specific proposals (such as those outlined in the public comment) would be addressed at the local ranger district or national forest level and are outside the scope of the FEIS. Under the selected alternative, all existing designated OHV roads, trails and areas occur in land use zoning that allows motorized use.

The Forest Service should not restrict off-road vehicle use from Pozo to Black Mountain to keep off-road opportunities for the future generations. (PC 4569)

The Black Mountain place is predominantly zoned as Back Country Motorized Use Restricted with public access being restricted to National Forest System roads that are open to public use. The Pozo-La Panza place is predominantly zoned as Back Country Motorized where OHV use is restricted to roads and trails that are designated for this use. The selected alternative for the Los Padres National Forest more clearly displays the agency's intent regarding the management of the various landscapes on the national forest, providing a balanced approach for both the protection of resources and providing the many forms of recreation that the public enjoys. The land use zones now more accurately reflect the feasibility of providing these different recreation opportunities recognizing that many of the landscapes have such adverse topography that the development of additional roads or trails is very limited if not impossible. The emphasis of the selected alternative is to emphasize incremental changes to the OHV system for enthusiast safety and resource protection and to develop long distance travel opportunities that have the potential to link isolated OHV routes or more fully developed route systems together.

The Forest Service should balance forest protection with motorized recreation in the Mt. Pinos area. (PC 4574)

In responding to many site-specific comments, the selected alternative more clearly displays the agency's intent regarding the management of the various landscapes on the national forest, providing a balanced approach for both the protection of resources and providing the many forms of recreation that the public enjoys. The land use zones now more accurately reflect the feasibility of providing these different recreation opportunities recognizing that many of the landscapes have such adverse topography that the development of additional roads or trails is very limited if not impossible. The emphasis of the selected alternative is to emphasize incremental changes to the OHV system for enthusiast safety and resource protection and to develop long distance travel opportunities that have the potential to link isolated OHV routes together, or as the respondent notes, developed OHV systems such as Ballinger Canyon west to Hungry Valley SVRA. Under the selected alternative, management intent for the Hungry Valley/Mutau and Mt. Pinos Places is to review the possibility of developing an OHV trail that would link the Ballinger Canyon OHV trail network to the Hungry Valley State Vehicle Recreation Area. This would be a mitigation for the closure of the Toad Springs OHV trail through the Chumash Wilderness in accordance with the 1992 Condor Range and River Protection Act. This is seen under the selected alternative, by the zoning/management intent for the Hungry Valley/Mutau and Mt. Pinos Places. The areas where the trail is being considered (Hungry Valley-Mutau Place south and southeast of Ballinger Canyon) are not adjacent to the Wind Wolves Preserve. Activities in the Place will be managed to continue to provide the interconnected block of habitat linkages. Prior to developing such a trail, the Los Padres National Forest

would conduct site-specific environmental analysis as required by the NEPA and impacts to wildlife, including fragmentation, would be considered at that time. Addressing such site-specific project planning is outside the scope of the forest plan. Please refer to the Highway 33, Mt. Pinos, and Hungry Valley/Mutau place descriptions in Part 2 of the forest plan for the Los Padres National Forest for this discussion.

Regarding requested action to improve motorized access in the Ojai area (or in any area), modification to the designated OHV route system will require site-specific NEPA analysis.

On the Angeles National Forest, the area around Rowher Flat and Drinkwater Flats is being retained as Back Country or as Developed Area Interface in the selected alternative. The opportunity to provide for the expansion of the OHV activity in this area was identified as a desired condition. Please refer to the forest plan, Part 2, Place-Based Program Emphasis for the Angeles National Forest for the Soledad Front Country and the Santa Clara Canyons Places.

The Forest Service should not close the Heartbreak Ridge Roadless Area to mountain biking and motorized recreation and firefighting access. (PC 4982)

San Bernardino National Forest Road 1N01 from Onyx Pass down Pipes Canyon to the national forest boundary was not included within the boundary of the Heartbreak Ridge Inventoried Roadless Area. The public will continue to have motorized and mountain bike access on this road. The Forest Service will also retain full motorized administrative access for wildfire suppression there. Juniper Springs and Round Valley Group Campgrounds were excluded from the boundary of the proposed wilderness, along with most of the other roads along the northern boundary of this unit.

The Forest Service should include pending decisions from the national Forest Service ORV plan into the plans for Southern California. (PC 5006)

The national direction for OHV use and the Region's most recent direction regarding the activity have been incorporated into the planning process for the FEIS. OHV use on the four southern California national forests is currently restricted to designated routes under their current plans and will continue to remain restricted to designated routes under the selected alternative. This is in full conformance with the recent changes in national policy, which directs that unmanaged recreation activities, such as OHV use, be more carefully managed, and that OHV use be restricted under most circumstances to designated routes. This is also in conformance with the current effort being undertaken by Region 5 to better manage the OHV activity and move towards a designated route policy.

Commodity and Commercial Uses

Other Activities Mgmt (Mining, Utilities, Special Uses, combined)

The Forest Service should protect the forests from further development including proposals such as a Super Highway and a hydro-electric plant in Riverside County. (PC 3560)

Some commenters were concerned about growing populations and expanding urban development increasing pressure on forest resources. This is one of the primary issue topics addressed in this forest plan revision. However, the requests we received to stop or slow urban sprawl that is approaching or inside the boundaries of the national forests are outside the scope of the revised forest plans because the referenced housing and other developments are on private lands and beyond Forest Service jurisdiction.

The National Forest System (NFS) is managed for human uses as well as for ecosystem sustainability as a part of our multiple use mandate. The revised forest plan is a strategic document that describes guidance for the development of project proposals, including the determination of land use zoning and suitable uses (see Part 2). The forest plan includes goals (see Part 1); program emphases, objectives and strategies (see Part 2); and standards related to environmental protections when considering proposals for special-uses (see Part 3). For example, in Appendix B of Part 2 of the forest plans, Strategy Lands 2 directs that

opportunities be maximized to co-locate facilities and minimize the encumbrance of NFS land. In addition, Forest Service policy directs that opportunities for a use to be reasonably accommodated on non-National Forest System land be one of the considerations during review of new special-use applications.

The forest plan will not make decisions for the designation of land based on any project level proposals. The designation of any NFS land for occupancy and use (e.g., transportation system, energy development, etc.) will be determined at the site-specific or project level and is outside the scope of the decisions made in the forest plan. Adequate analysis done at the appropriate scale and scope will be done on any proposal advanced by the Forest Service.

Based on the major economic size of the communities in the planning area and the forecasted population growth, it is the land use decisions made by the local cities and counties that will determine the character and economy of the region. National and international market forces, events and demographic pressures in and outside of the planning area will also continue to exert a very strong influence. Even though the national forests contribute a very minor percent to the local economies (see FEIS, Chapter 3, Effects on Economic Environment), we recognize our important roles which include providing natural-appearing landscape panoramas (see Plan, Part 1, Forest Niche) and our contribution toward the products, services and experiences that make visits to or living in southern California desirable.

The Forest Service should identify local development proposals' cumulative impacts on these forests. (PC 3579)

As described in Part 1 of the forest plan, Purpose of Plan and Adaptive Management Framework, the revised forest plans are strategic only and no site specific analyses or decisions are made. However, known large-scale project developments that may be proposed on National Forest System lands are mentioned in Chapter 3 of the FEIS, Effects on Non-Recreation Special Uses and addressed in a general manner under cumulative effects.

The Forest Service should require all power lines and communication sites to be raptor safe, not just new sites. (PC 3612)

Authorizations for occupancy and encumbrance of NFS land stipulate the conditions for use to balance project need with resource management objectives. Raptor safe facilities are stipulated in powerline and communication special-use authorizations, operating plans, and site plans. See Standard S42 in Part 3 of the revised forest plan.

The Forest Service should adopt all restrictions within its jurisdiction to protect biological resources including carbonate species from the harmful effects of mining. (PC 3614)

We concur that mineral withdrawal is not an assured method of species protection. It is only one of several strategies proposed to protect endangered habitats. The San Bernardino National Forest (SBNF) has worked with the mining community and other cooperators to develop the Carbonate Habitat Management Strategy (CHMS) for the expressed purpose of protecting biological resources from the effects of mining. This strategy will become part of the SBNF Plan.

In Part 1 of the forest plan, see Goal 6.2 Biological Resource Conditions, for desired conditions and the monitoring section that describes how national forests would measure movement towards meeting desired conditions. See Part 2 of the SBNF Plan, in the Forestwide Guidance section for descriptions, desired conditions and monitoring that would occur within pebble plain and carbonate habitat. In Part 2 of the San Bernardino National Forest Plan, see also Monitoring Trends and Performance Indicator sections for Resources, Minerals and Land Ownership and Adjustment that directly relate to the CHMS. Additional Program Strategies and Tactics to move listed species toward recovery are described under WL 1 in Appendix B. Seven of these items are directly related to the management of carbonate plant habitat. Mining withdrawal was also added to WL-1 as a strategy to protect habitat over the long-term. See also

ME 1-Minerals Management for a list of strategies that could be used to reduce mining effects on species. See the Place-Based Program Emphasis sections in the Big Bear Backcountry and Desert Rim Places. See Forest Specific Design Criteria, Place-Based Standards for SBNF Standard S3 relating to carbonate mine restoration. The SBNF would also utilize land use zoning and recommendations for special area designations as methods to promote and study carbonate plant conservation. In the selected alternative, Critical Biological zoning on Bertha Ridge and recommendation to establish the Blackhawk Research Natural Area would protect carbonate habitat over the long-term. Please see the Appendices in Part 2 of the SBNF Plan for descriptions of these areas.

In Part 3 of the forest plan, see the Standards in the Fish and Wildlife section related to threatened and endangered species management that could apply to mining projects and two additional standards that specifically apply to mining in the Lands and Special Use Activities section. See also the monitoring section that describes how national forests would monitor for implementation and effectiveness. This would provide the opportunity for national forests to review projects to determine if Design Criteria are effective or need to be updated.

The Forest Service should clarify the nature of the "Visual Impact" in the Mt. Waterman area. (PC 3622)

An environmental analysis is conducted when a project is proposed, including changes to existing improvements. At that time, the project's effects on the scenic resources are assessed. The project should meet the Scenic Integrity Objectives (SIOs) as defined in the forest plan. Some allowances for underachievement of the SIOs are defined in the Aesthetic Management Standards of the Plan, Part 3.

The Los Padres National Forest should provide reference to the Pico Blanco mining claims and access road development, to gold mining in the historic Los Burros District, and to recreational/art rock collection activities at the Jade Cove access area. (PC 3637)

Further information was added to the Big Sur Place description in Part 2 of the revised forest plan for the Los Padres National Forest. The Los Burros gold district, which includes most of the Big Sur Place southeast of Prewitt Creek, was historically the principle source of gold mining, both lode and placer, in the Coast Ranges. Two small active gold mines remain in this area. The entire area is now withdrawn from mineral entry, which precludes any new mining claims. Claims with prior existing rights may still operate, subject to environmental restrictions. Jade has been collected historically in the areas of Plaskett Creek/Jade Cove and Willow Creek, as well as by divers offshore. There are limestone mining claims on the slopes of Pico Blanco, both on private and National Forest System (NFS) lands. These claims have not been mined to date. During the late 1800s into the early 1900s, the Santa Lucia Range was an important source of tanoak bark for the leather-tanning industry. Due to its remoteness and steep topography, Big Sur did not experience logging of commercial sawlogs to the same extent as did other forested areas of central California. Prior to any mining activity occurring on NFS lands, a plan of operations would have to be submitted to and approved by the Forest Service per current CFR 228 regulations, and any needed permits obtained. The landowner has not agreed to consider selling their private land and mining claims on the national forest to the Forest Service. Even though the Forest Service has expressed an interest to make this acquisition, the landowner is still considering mining the property.

The Forest Service should also support the use of waste-conversion technologies and recycling as a means of minimizing the impacts of extraction and supplanting the growing demand for forest products. The Forest Service should consider limits on consumption and on outflows, and also support the use of waste-conversion technologies and recycling as a means of minimizing the impacts of resource extraction and supplanting the growing demand for forest products. (PC 3714)

Part 2 of the revised forest plan provides estimates of levels for some programs such as vegetation management. Activities (and their outputs or outcomes) are to be consistent with the forest plan, including

standards and the several strategic goals related to ecosystem health. Standard 1 states that there is no land identified as suitable for timber sale production. In general, limiting natural resources consumption is outside the scope of the forest plan. The Forest Service supports recycling in accordance with other direction in Part 3, but this is not a decision made in the forest plan.

Range and Livestock Grazing

The Forest Service should include a timeline for evaluating range conditions to the Final Plan. (PC 591)

The Rescissions Act states that all allotments on the Forest Service submitted allotment NEPA schedule must be NEPA compliant by the year 2010. The Forest Service intends to comply with Rescissions Act (see Part 3, appendix A) and its allotment NEPA schedule. Contact your local Forest Service Office for the allotment NEPA schedule as per the Rescissions Act. The revised forest plans set forth timelines for assessing the condition and trend of livestock grazing areas (see Parts 1 and 2 of the forest plans). The condition of allotments is disclosed in the FEIS in table 109: Vegetation (Uplands) and Riparian Conditions.

The Forest Service should implement the California Native Plant Society's comprehensive grazing management proposal. (PC 592)

The revised forest plans set forth timelines for assessing the condition and trend of livestock grazing areas (see Parts 1 and 2 of the forest plans). The condition of allotments is disclosed in the FEIS, Chapter 3, Affected Environment, Livestock Grazing and table 109: Vegetation (Uplands) and Riparian Conditions.

In Part 1 of the forest plan, a process for adaptive management is described to address change in conditions and monitoring. The livestock grazing program strategies and tactics in Part 2 of the forest plan discusses rangeland health assessments and timelines. Standard 56 in Part 3 of the revised forest plan also gives guidance as to rangeland condition with regards to the adjustment of standards to meet or move towards desired conditions. Appendix J in Part 3 of the forest plan has been edited to include that the assessment of suitability is conducted by an interdisciplinary team to determine the suitability of capable lands, and the list of areas to be evaluated now includes "but not limited to."

The California Native Plant Society's "Livestock Management Proposal for USDA Forest Service Southern California Forest Plan Revision" dated March 26, 2002 was considered in developing the forest plan revision. Most of the proposal (aside from suggesting some standards) is directed towards site-specific NEPA analysis and administrative procedures. While the proposal is clearly comprehensive at the site-specific level of program administration, the forest plan is strategic and does not make site-specific decisions. Range condition, administrative procedures, allowable use, and variable utilization limits are determined through site-specific NEPA and monitoring. There no longer is any language in Forest Service Manual 2211.6 (1)(6) regarding livestock grazing. The reference is now in Forest Service Handbook 2209.13 Chapter 90.

The Forest Service should use objective and transparent grazing monitoring, remedial actions, and feasible and timely deadlines in order to prevent the damage and adverse impacts associated with grazing. (PC 2531)

Monitoring resources are allocated towards the administration of livestock grazing. Congress allocates funding. The Forest Service must comply with federal laws and national policy. Each of the four southern California national forests has workforce plans in place to administer the national forests' grazing activities. Part 3 of the forest plan has standards designed to meet or move towards desired conditions. Specifically, standards S11, S12, S24, S47, S51-56 address the impacts and constraints on livestock grazing. The compliance to these standards will be monitored by the Forest Service. Permittees are responsible for compliance with the terms and conditions of their permit. Part 2 of the forest plan under

Livestock Grazing Strategies and Tactics LG1 addresses non-compliance of permit terms and conditions which include the forest plan standards.

The Forest Service should ensure that each grazing threat identified for a TEPCS species actually has a standard to address every threat because the Draft EIS was not specific enough in methodology or area designation. (PC 2538)

The grazing standards have been improved to provide increased protection for threatened, endangered, proposed, candidate and sensitive species. We do not believe that a standard is needed for every threat. Standard S11 calls for developing project-specific or activity-specific design criteria using the species guidance documents (see Plan Appendix H).

The Forest Service should modify its grazing capability/sustainability criteria concerning an area's ability to produce more than 200 lbs/acre of forage to explicitly incorporate quantified forage needs of wildlife and quantified biomass retention needs of flora. (PC 2539)

The capability criteria of "having the ability to produce an average of 200 lbs. of forage/acre" has been modified in the final revised forest plans. Part 3 of the Plan, Appendix J, Step 1, now reads: "Ability to produce 200-700 lbs/acre or forage based on site potential." In addition, the FEIS, Chapter 3, Effects on Livestock Grazing analyzes the forage for wildlife. The allocated forage for wildlife is 101,107 animal unit months (AUMs) of an estimated 198,884 AUMs available. Because of the variability of landform and forage production across all four southern California national forests and designated grazing areas, a site-specific analysis and monitoring would be needed to refine the amount of allowable use to help ensure the needs of wildlife and resource protection.

The Forest Service should recognize ranching for its historic significance. (PC 2542)

The FEIS has been modified to include the significance of ranching in and around the national forests in Chapter 3, Livestock Grazing.

The Forest Service should allow motorized equipment in designated wilderness as a permissible grazing-related activity. (PC 2544)

The Forest Service does allow motorized equipment as a permissible grazing-related activity where the land use zones allows for it. As per section 4(d)(4)(2) of the Wilderness Act (see FSM 2323.22), "the grazing of livestock, where established prior to the effective date of the Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture." The maintenance of supporting facilities, existing in the area prior to its classification as wilderness (including fences, line cabins, water wells and lines, stock tanks, etc.) is permissible in wilderness. Where practical alternatives do not exist, maintenance or other activities may be accomplished through the occasional use of motorized equipment. This pertains to all wilderness areas.

The Forest Service should renew grazing in the forest to reduce the light fuel loads. (PC 2546)

Livestock grazing can be used as a tool to reduce light fuel loads where appropriate and allowed (see Chapter 3 of the FEIS, Effects on Wildland Fire and Community Protection). Through a site-specific analysis, livestock grazing may be permissible depending on the capability and suitability of an area and ability to meet or move towards the forest plan desired conditions. In addition, the land use zones determine whether an activity is suitable or not.

The Forest Service should support responsible grazing based on sound science. (PC 2550)

The FEIS Chapter 3 based its analysis on available scientific information and professional judgment. The FEIS has included a more detailed discussion on the effects of livestock on resources than in the DEIS. The design criteria, found in Part 3 of the forest plan, provide measures to meet or move towards desired conditions while maintaining opportunities for livestock grazing. The standards are constraints that provide for protection of resources (see Part 3, Standards S11, S12, S24, S47, S51-56). Vacant grazing

areas will be analyzed in a site-specific analysis to determine which ones are suitable or not for livestock grazing. The forest plan only gives strategic direction.

The Forest Service should not open any new grazing areas. (PC 2551)

The only new areas being analyzed are on the Los Padres National Forest and are recent land acquisitions with previous grazing history (see FEIS, Chapter 3, Effects on Livestock Grazing). These areas and any additional new grazing areas will need a subsequent site-specific analysis prior to authorization of grazing.

The Forest Service should allow grazing where it is sustainable and not permanently close unused allotments if they can be used in a sustainable manner. (PC 2552)

The revised forest plans provide for grazing where forest resources are sustainable (see Part 2 under Commodity and Commercial Uses). In addition, in Appendix B of Part 2, Livestock Grazing Strategy LG 1 states: "Utilize suitable vacant allotments, other livestock grazing areas, and transitory range for available forage or utilize these areas to move active livestock grazing areas toward meeting resource and rangeland management desired conditions."

Chapter 3 of the FEIS, Effects on Livestock Grazing, discusses the capability and suitability of livestock grazing between all alternatives. The FEIS evaluates alternative scenarios and estimates that all active grazing areas are maintained in all alternatives except Alternative 6, which reduces some active grazing areas. Vacant grazing areas are estimated to be retained in various amounts in all alternative scenarios. No decisions are made to close any allotments, active or vacant. To close or remove a livestock grazing area would require a separate site-specific analysis and decision.

The Forest Service should include in its grazing management a standard on allowed use based on condition. (PC 2557)

Management direction for livestock grazing is provided in all three parts of the revised forest plan. Monitoring and evaluation (see Appendix C in Part 3) and adaptive management will provide for adjusting direction to changes in conditions (see Adaptive Management Framework in Part 1).

Public input as well as science review helped in developing the utilization standards for livestock grazing in Part 3 of the revised forest plan. The Forest Service Manual (FSM) no longer requires utilization limits. FSM 2211.6(6) no longer exists.

Your concern that supplemental feeding can cause problems with invasive species is addressed by FSM 2200 and Forest Service Handbook 2209.13, which state that supplemental feeding is not authorized.

The Rescissions Act states that all allotments with the Forest Service submitted allotment NEPA schedule must be NEPA compliant by the year 2010. The Forest Service intends to comply with Rescissions Act (see Part 3, Appendix A) and its allotment NEPA schedule. Contact your local Forest Service Office for the allotment NEPA schedule as per the Rescissions Act.

The Forest Service should set quantitative thresholds regarding livestock grazing capability to determine whether permitting livestock grazing is consistent with the agency's obligation to manage ecosystems on a sustainable basis; and to protect soil health, forage health, and water availability. (PC 2558)

36 CFR 219.3 defines capability as: "The potential of an area of land to produce resources, supply goods and services, allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends on current conditions and site conditions such as climate, slope, land form, soils, and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease." Suitability is defined as "The appropriateness of applying certain resource management practices to particular areas of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone."

Chapter 3 of the FEIS, Effects on Livestock Grazing, discusses the capability and suitability analysis for all alternatives. The forest plan design criteria in Part 3 of the forest plan are mandatory requirements that are applied to site-specific activities that are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions. The standards act as thresholds or constraints for management activities or practices to help ensure the protection of resources.

The Forest Service should evaluate environmental consequences, economic consequences and alternative uses for grazing lands. (PC 2559)

Chapter 3 of the FEIS discusses the consequences of livestock grazing between alternatives for various resource areas (refer to the section of the resource being affected). The FEIS, Chapter 3, Effects on Livestock Grazing, discusses the capability and suitability analysis between the seven alternatives for the forest plan level of analysis. Appendix J in Part 3 of the forest plan outlines the guidance for determination of capability and suitability for site-specific analysis. The forest plan revision is strategic and does not make site-specific decisions. The FEIS followed the forest planning direction in 36 CFR 219.3 (cited in Part 3, Appendix A) for determining the capability and suitability of all livestock grazing areas. All active livestock grazing areas remain in all alternatives except Alternative 6, which has a reduction of 62 grazing areas (FEIS Chapter 3, Effects on Livestock Grazing). Vacant livestock grazing areas recommended for closure varied by alternative. Any closure of a livestock grazing area would require a separate site-specific analysis and decision, including the opportunity for the public to comment.

The Forest Service should evaluate the need for grazing lands. (PC 2562)

The Granger-Thye Act (1950) provides for the issuance of grazing for up to 10 years (Part 3 of the forest plan, Appendix A). Forest Service direction (FSM 2230) does not require an evaluation as to whether a permittees operation is contributing to the region's food source.

The FEIS, Chapter 3, discusses the effects of livestock grazing in several resource areas such as: watershed, recreation, fuels, soils, biological diversity, livestock grazing, etc). In Part 3 of the forest plan, the standards are mandatory requirements that come into play as site-specific activities are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions. The standards act as thresholds or constraints for management activities or practices to help ensure the protection of resources.

The Forest Service should permit established grazing in wilderness. (PC 2563)

Livestock grazing is permitted in wilderness as per section 4(d)(4)(2) of the Wilderness Act (see FSM 2323.22): "the grazing of livestock, where established prior to the effective date of the Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture. Livestock grazing that is either existing or has a recent history would not preclude an area being considered as wilderness.

The Forest Service should vary utilization limits and grazing management depending on range condition, and schedule range analysis and NEPA compliance. (PC 2565)

The Forest Service intends to comply with the Rescissions Act (see Part 3, Appendix A), which requires that all allotments on the Forest Service's allotment NEPA schedule must be NEPA compliant by the year 2010. Grazing permit terms and conditions allow for the National Forest Officer in charge to adjust grazing utilization based on resource conditions. In Part 1 of the revised forest plan, adaptive management is explained to adapt to changing conditions. In addition, the standards in Part 3 for livestock grazing also allows for changing conditions.

The Forest Service should adopt the livestock grazing standards from the Conservation Alternative. (PC 2566)

As per the "Conservation Alternative" submittal, on page 9 under Economic Activities for Domestic Livestock Grazing, it states: "The section steers the Forest Service towards the elimination of commercial

domestic livestock grazing." As explained in FEIS, Chapter 2, the Conservation Alternative was not incorporated exactly as submitted, but its key elements form the basis of Alternative 6. We considered all input in developing the capability and suitability guidelines (see FEIS Chapter 3, Effects on Livestock Grazing) as well as the design criteria in Part 3 of the forest plan. The direction for site-specific analysis in Part 3 is intended to protect biological diversity and ecological function on the forests. The Forest Service's mission is to "sustain the health, diversity, and productivity of the nation's forests and grasslands" and maintains as a priority goal to "increase the area of forest and grassland watersheds in fully functional and productive condition." The revised forest plans through desired conditions, design criteria, and goals are providing direction to that mission. Our mission is also to provide good and services as outlined in National Strategic Plan Goal 6 in Part 1 of the forest plan. In addition, a cycle of adaptation is incorporated through monitoring and evaluation requirements that are found in each of the three parts of the plan (see Part 1, Purpose of the Forest Plan and Adaptive Management Framework). Using GIS layers and database, reports were conducted to determine which current livestock grazing areas or portions of were suitable for all alternatives. The results are listed in the FEIS Chapter 3, Effects on Livestock Grazing. The capability and suitability criteria under Alternative 6 was revised to include less than 20 percent slope, which resulted in a 514,903 acre reduction in suitable acres (see table 108: (Grazing Suitability by Forest by Alternative) in the FEIS).

The Forest Service should increase grazing allotments to help with fuels reduction around communities and to provide a historic and scenic presence. (PC 2567)

The Forest Service recognizes the benefit of livestock grazing in reducing flashy fuels (FEIS Chapter 3, Effects on Wildland Fire and Community Protection and Effects on Livestock Grazing). Any area that is not currently in a designated area would require a site-specific analysis and subsequent decision. The revised forest plan is strategic and does not make site-specific decisions.

The Forest Service should clarify grazing allotments' livestock because sheep grazing for firebreaks is different than cattle denuding riparian areas. (PC 2569)

The FEIS, Chapter 3, Livestock Grazing, addresses this comment: "Cattle (and to a lesser degree horses) account for the majority of the AUMs, with a small amount of sheep permitted on the Angeles National Forest to maintain and reduce the quantity of fuel and maintain fuelbreaks." The standards in Part 3 of the forest plan (S56, S11, S15, and S34) provide thresholds or constraints to protect riparian resources to meet or move towards desired conditions.

The Forest Service should consider the effect of wilderness designation on fuels treatment by grazing. (PC 2570)

Livestock grazing is permitted in designated wilderness as per section 4(d)(4)(2) of the Wilderness Act (see FSM 2323.22): "the grazing of livestock, where established prior to the effective date of the Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture." Livestock grazing is occurring in wilderness (see FEIS, Chapter 3, Effects on Livestock Grazing). There are 66 designated grazing areas within, in whole or in part, wilderness areas in the four southern California national forests occupying approximately 11 percent of the total National Forest System existing wilderness areas. The Forest Service has the authority to utilize livestock grazing for fuels reduction in wilderness should that management practice be chosen. Should a new area (not historically grazed) be designated as wilderness, the legislation would need to permit livestock grazing.

The Forest Service should consider slope and bare ground percent in determining grazing utilization standards. (PC 2573)

In conjunction with the Region 5 soil quality analysis standards, the soil erosion hazard rating system is used to identify areas that might have significant effects due to management activities. The erosion hazard rating system uses slope as one of the components for analysis. Slope is a consideration when the soil resource measures are used, as stated in the FEIS, Chapter 3, Effects on Soil section. This system has

been developed in coordination with the Natural Resources Conservation Service. The soil erosion hazard rating identifies the soil cover factors in an area and is based upon the amount of surface area covered by low growing vegetation (grasses, forbs, and prostrate shrubs) plant litter and debris. The use of the best available science is always a goal that is desired when project analysis is conducted.

The Forest Service should evaluate livestock impacts on soil crusts. (PC 2575)

There are a few sites where soil crusts exist on the national forests in southern California. These locations have had grazing activities present for the last 100 years. The impact to soil crust from grazing can be adverse, but if managed properly based on soil type, timing, etc. a healthy soil crust can be maintained. These areas as with any other project area would use soil resource protection measures as listed in Part 3 of the forest plan design criteria. The effects of livestock grazing are discussed in Chapter 3 of the FEIS, Effects on Soil. This is an addition from the DEIS.

The Forest Service should allow grazing on steep slopes for brush control. (PC 2576)

The capability criteria referred to in Part 3 of the draft plan Appendix J-3 has been modified in the final revised forest plan to change the word "criteria" to "guidelines." Guidelines are to be considered in the determination of capability; however, a site-specific analysis will determine the effects and desired conditions. It is possible that an area would have a desired condition to graze chaparral on steep slopes.

The Forest Service should determine quantified thresholds determining where grazing is unsuitable such as areas where erosion is likely to occur, water along livestock trails, or where groundcover is likely to be removed. (PC 2578)

In Part 3 of the forest plan, Appendix J, step 2 outlines the guidelines for determining suitability of an area for livestock grazing. Specific thresholds will be developed at the site-specific level. In addition, the revised forest plans provide standards applicable to grazing. Part 1 of the forest plan defines the forest plan standards, which are found in Part 3 of the forest plan as "... mandatory requirements that come into play as site-specific activities are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions. The standards act as thresholds or constraints for management activities or practices to help ensure the protection of resources."

The Forest Service should institute 10 percent streamside disturbance maximum levels for sensitive riparian areas. (PC 2579)

Standard S56 in Part 3 of the revised forest plan has been revised to better meet or move towards the forest plan desired conditions based on public input, review of science, and actual knowledge of site-specific conditions. Standard S56 adds streambank alteration by livestock allowable use of 10 percent in least Bell's vireo/southwestern willow flycatcher occupied habitat and 20 percent in riparian and wet meadows.

The Forest Service should focus on water quality with regard to properly managing grazing, and consider findings from recent research that cites both beneficial and adverse effects as well as recommendations such as strategic placement of fencing as well as the addition of watering sites on rangeland. (PC 2601)

The Forest Service considers properly managed grazing as a benefit to water quality by providing adequate soil cover by moderate grazing practices. In Part 2 of the forest plan under Livestock Grazing strategies and tactics, LG1 provides strategies for rangeland management practices to meet or move towards desired conditions including placement of water developments outside of riparian areas to lessen the degree of riparian use. In addition, Best Management Practices for Water Quality are followed. The FEIS Chapter 3 discusses the effects of livestock grazing on watersheds (Effects on Watershed Conditions).

The Forest Service does recognize that grazing is an appropriate activity on National Forest System lands and has management practices to mitigate effects. The standards in Part 3 of the forest plan are mandatory

requirements that are applied to site-specific activities that are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions.

The Forest Service should allow grazing in Back Country Non-Motorized areas only "where justified." (PC 2602)

Livestock grazing is a suitable use in all land use zones with the exception of the Critical Biological zone (see Part 2 of the forest plan, Land Use Zone section, Suitable Use Tables). The commenter does not clarify when and where "where justified" would apply. All livestock grazing areas would receive a site-specific analysis when and where deemed necessary by the Line Officer in charge.

The Forest Service should develop habitat-specific grazing management plans to protect important habitats of species-at-risk. (PC 2605)

The standards in Part 3 of the forest plan are mandatory requirements that are applied to site-specific activities that are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions. The standards act as thresholds or constraints for management activities or practices to help ensure the protection of resources. See Part 3, Standards 11, 24, 47, 51, 52-56. We feel that the standards in Part 3 of the forest plan are adequate to protect species and their habitats (see Appendix H: Species Guidance Documents of the forest plan). In addition, at the site-specific project level we prepare Biological Assessments for threatened, endangered, proposed, and candidate species and biological evaluations for Region 5 Forest Service sensitive species to analyze potential effects to these species and their habitats. As necessary, consultation with U.S. Fish and Wildlife Service and National Marine Fisheries Service (NOAA Fisheries) may also be conducted.

The Forest Service should consider distance from water, slope, and availability of shelter in setting stocking rates and determining utilization. (PC 2612)

The process of determining stocking rates that consider distance from water, slope, and availability of livestock needs are determined at the site-specific level and not the forest plan which is strategic in nature. The Forest Service Region 5 Range Analysis Handbook provides guidance that considers distance to water, slope, and cover. Utilization allowable use is contained in Part 3 of the forest plan under Standard 56.

The Forest Service should use updated, objective science and proper grazing management to solve grazing-related resource problems and enhance the areas for the threatened and endangered species and fuels management. (PC 2614)

Chapter 3 of the FEIS discusses the general effects of livestock grazing using relevant science and professional judgment. The Forest Service embodies the adaptive management approach to find the proper management to meet or move towards desired conditions (see Parts 1, 2, and 3 of the forest plan).

The Forest Service should remove grazing from the forest. (PC 2615)

Grazing is an appropriate use of National Forest System lands where determined to be suitable. At the forest plan level, livestock grazing capability and suitability was determined for all alternatives. The effects of grazing are disclosed in Chapter 3 of the FEIS under the section of the resource being affected.

The Forest Service should re-evaluate the impacts of livestock grazing on water quality and marine environment including in relation to recreation activities. (PC 2622)

The nation's forests have long been considered sources of sustainable high quality water. During project implementation water quality is protected through the use of State approved Best Management Practices (BMPs) (see Range Management Practices BMP 12.8). The BMPs are designed to protect the state established beneficial uses for the water body at risk. No distinction is made between marine and freshwater in BMP implementation. The anticipated grazing and recreation effects of all the alternatives on watershed resources are discussed in the FEIS in Chapter 3, Effects on Watershed Conditions.

The Forest Service should re-evaluate the impacts of grazing on fire suppression/fire generation, soil disturbance, alien plants, and related issues because several studies show that grazing creates a forest environment more susceptible to catastrophic fire. (PC 2623)

The commenter did not cite the referenced studies. Grazing generally reduces herbaceous fuels and thus reduces fire intensity and rates of fire spread. Suppression of fires is more easily controlled during initial attack (see FEIS Chapter 3, Effects on Wildland Fire and Community Protection). Also see Chapter 3, Effects on Invasive Species.

The Forest Service should re-evaluate grazing impact on riparian areas, soil protection, alien plants, cowbird parasitism, trampling, and water quality degradation because the draft plan fails to clarify, provide support for, or completely omits these issues. (PC 2626)

The effects of livestock grazing on biodiversity, soils, watershed, and invasives have been further clarified in the FEIS. The standards in the final forest plan Part 3 provides for protection and meeting or moving towards the desired conditions and has been revised due to public comment (see standards S11, S12, S27, S47, S51, S53, S54, S55, S56). The standards are mandatory requirements that come into play as site-specific activities are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions. The standards act as thresholds or constraints (the sideboards) for management activities or practices to help ensure the protection of resources. In addition, an adaptive management approach is outlined in Part 1 of the forest plan to provide direction to adjust to changing conditions.

The Forest Service should re-define the "exceptions" portion of the grazing suitability criterion. (PC 2627)

The capability and suitability criteria (forest plan Part 2-Appendix J) has been revised to clarify where capable lands are not suitable and where capable lands may not be suitable depending on the overall evaluation of potential significant adverse effects and where efforts to mitigate adverse effects have been determined to be ineffective over the long-term based on site-specific information or analysis. During a site-specific analysis, the interdisciplinary team would develop specific management actions that would move towards or meet desired conditions. In addition, the standards in Part 3 of the forest plan are mandatory requirements that come into play as site-specific activities are planned for implementation, and are designed to be consistent with achieving the objectives and desired conditions. The standards act as thresholds or constraints for management activities or practices to help ensure the protection of resources

The Forest Service should, for all grazing areas, require a browse limit of at least 6-inch stubble height for herbaceous species, a 20 percent maximum annual utilization on new growth on upland woody brose species, biennial resting periods, short seasons (10 days maximum), and limited stocking densities in dry meadows. (PC 2628)

The standards in the forest plan are set forth to meet or maintain desired conditions and objectives. The standards in Part 3 of the revised forest plan have been modified due to public comments. In particular, Standard S56 now includes standards for streambank alteration by livestock allowable use of 10 percent in least Bell's vireo/southwestern willow flycatcher occupied habitat and 20 percent in riparian and wet meadows, allowable use of 35 to 40 percent for woody browse, allowable use of 35 to 50 percent for perennial grass and grasslike plants, 4-6 inch stubble height in wet montane meadows and 20 percent allowable use on advanced oak tree regeneration. In Part 1 of the forest plan, an adaptive management approach is outlined to allow for changing conditions over time.

The Forest Service should prohibit livestock grazing in key, occupied, and modeled habitat as well as designated critical habitat. (PC 2631)

The FEIS Chapter 3 provides an analysis of the effects of livestock grazing in each of these habitat classifications or the updated terms used to describe habitat in the Biological Assessment. The standards

in Part 3 of the forest plan outline standards for meeting or moving towards desired conditions (S11, S12, S27, S47, S51, S53, S54, S55, S56).

The Forest Service should include cattle grazing prohibitions within 9 miles of bighorn sheep habitat as well as prohibitions for sheep and goat grazing. In addition, there should be a standard that requires grazing suspension or cancellation if cattle trespass into bighorn sheep areas is not resolved. (PC 2638)

Standard S26 prohibits use by domestic sheep and goats within nine miles of occupied bighorn sheep habitat. The need for large buffers to protect bighorn sheep from cattle diseases has been evaluated by the Department of Fish and Game in the San Jacinto and Santa Rosa Mountains. There was no justification for eliminating cattle grazing within nine miles of occupied sheep habitat. The Recovery Plan for Bighorn Sheep in the Peninsular Ranges, California serves as the basis of our forest plan decision to prohibit use by domestic sheep and goats within nine miles. The Forest Service has eliminated cattle grazing in occupied sheep habitat where there is potential to degrade forage or water as recommended in the recovery plan.

The Livestock Grazing strategy and tactics in Part 2 of the forest plan reference the Region 5 policy on suspension and cancellation guidelines for permit non-compliance. In addition, law enforcement action may also be appropriate. Allotment permit administration is, however, an administrative action and not forest plan direction, which is strategic.

The Forest Service should prohibit livestock grazing in burned areas for at least two years. (PC 2643)

In Part 3 of the forest plan, under Soil, Water, Riparian and Heritage Standards, Standard 54 states: "Burned areas: After a wildland fire, and prior to initializing grazing, a site-specific analysis by an interdisciplinary team will be performed within designated livestock areas to determine the level and location of livestock use, if any." All standards in Part 3 of the forest plan would be complied with if grazing is authorized. In addition, Chapter 3 of the FEIS, Effects on Biological Diversity, discusses the effects of livestock grazing in burned areas.

The Forest Service should implement a conservation strategy to protect native grass assemblages because grazing is not recognized in the draft plan as a potential negative factor. (PC 2644)

The section on Oak Woodlands, Savannah and Grassland Habitats in Part 1 of the draft plan has been revised. The section on California annual grassland has been removed. Please see the revised version now located under Fire Regime III in Part 1 of the forest plans. The desired condition of oak woodland and savannah is to prevent the conversion to annual grasslands. The national forests also want to prevent coastal sage scrub habitat from converting to annual grasslands. Please see the section on Coastal Sage Scrub under Fire Regime IV in Part 1 of the forest plans. See also Standard S39 in Part 3, and FH 2: Prevent Type Conversion in Part 2, Appendix B of the forest plans.

The Forest Service should shorten the grazing season to 2 months, implement a rest rotation system, and adjust the grazing system based on plant phenology requirements in meadow and oak habitats. (PC 2645)

Standard S56 in Part 3 of the revised forest plan has been revised to add 20 percent allowable use on oak regeneration and 4"-6" stubble height allowable use in wet meadows, in order to better move towards the desired conditions in the revised forest plan. An adaptive management approach is described in Part 1 of the forest plan to meet changing conditions. A project-level analysis would analyze different grazing systems, season of use, and other management practices to meet or move towards the forest plan desired conditions, as these are site-specific and administrative actions. Allotment management direction and actions are outlined in the allotment management plans and permit terms and conditions.

The Forest Service should re-evaluate the preferred alternatives support of grazing. (PC 2646)

The FEIS in Chapter 3 analyzes the effects of livestock grazing on the various resources including riparian habitats, soils, and federally listed species. In addition, the standards in Part 3 of the forest plan includes standards the meet or move towards desired conditions (S11, S12, S27, S47, S51, S53, S54, S55, and S56).

The Forest Service should conform to BLM specifications for livestock fences adjacent to bighorn sheep habitat to prevent trespass. (PC 2651)

The Forest Service will conform to BLM/Forest Service specifications for livestock fences adjacent to bighorn sheep habitat when the existing fences are reconstructed or new fences are constructed.

The Forest Service should clarify if grasslands will be evaluated on grazed lands. (PC 3991)

The FEIS discusses the effects of livestock grazing on grassland in Chapter 3, Effects on Vegetation. Under the final forest plan Part 1, Goal 6.1- Move toward improved rangeland conditions as indicated by key range sites will be monitored for healthy rangelands for condition and trend. In addition, in Part 3 of the forest plan, Standard S56 contains utilization standards. Annual monitoring will occur in the administration of livestock grazing areas for compliance to the forest plan and the terms and conditions of the permit.

Special Forest Products

The Forest Service should consider that fuelwood harvesting for fire control is not suitable in Critical Biological areas. (PC 1335)

Fuelwood harvest in Critical Biological Zones was changed to be only by exception. By exception is defined in the suitable uses table as conditions which are not generally compatible with the land use zone but may be appropriate under certain circumstances. Although there are few times when there would be an exception, it is possible that there will be a need for the removal of excessive fuels that threaten the sustainability of the Critical Biological zone itself and the species it protects. If it was very carefully controlled, it could be the most economical and feasible way of reducing excessive fuels and protecting the species. The forest plan does not preclude its use as a tool for meeting Critical Biological zone protection.

The Forest Service should clarify who is responsible for the policies of gathering special forest products. (PC 3675)

Unless reserved as a right by a treaty or legislation, the use of animals by Native Americans for ceremonies or other traditional cultural practices and uses is governed by the State Fish and Game statutes as well as federal laws concerning wildlife. Migrant populations must follow the State Fish and Game statutes. Gathering of special forest products by either individuals or specific groups (ethnic, cultural, or political) is managed under the authorities and provisions of FSM 2460 and FSH 2409.18. The examples cited in this comment were part of the environmental consequences identified when limited resources are competed for by different cultural groups. The mitigation measures were opportunities to help preserve and protect resources, whether animal, plant, or mineral, while providing for cultural traditions and practices to occur.

The Forest Service should provide specific Standards, Guidelines and Objectives for management of special forest products in order to minimize confusion and to protect Native American cultural properties. (PC 4066)

The forest plans are designed to be strategic in nature and more specific direction is found in Regulations, Manual Direction, and site-specific analysis. The Forest Service has draft interim regulations that will govern the management of the harvest and sale of special forest products on National Forest System

lands. The intended effect of this is to give the guidance and sustainability and sale of special forest products and forest botanical products, and to establish fees to be collected and expended for forest products. The Forest Service recognizes that treaty rights and traditional and customary uses are to be considered when developing management plans for special forest products. Part 2 of the forest plans provide objectives and strategies to govern the use of special forest products (SFP-1). Standard 29 identifies the appropriateness of Native American requests for special forest products collection. Objective and strategies for Tribal (Tribal-1) identifies the need to use project planning and implementation to protect traditionally or contemporarily used resources.

Non-Recreation Special Uses

Permitting (except recreation permits)

The Forest Service should consider allowing working dogs for authorized activities such as: livestock, hunting, search and rescue, and drug enforcement. (PC 1171)

The revised forest plans do not restrict the use of working dogs on National Forest System land. Use of hunting dogs on National Forest System lands is managed by the California State Department of Fish and Game. Please see Public Uses Regulated by Other Agencies in Part 1 of the revised forest plans.

The Forest Service should clarify how Biological Assessment/Biological Evaluation requirements adhere to conditions of the Land Management Plan and if conditions apply to Caltrans operations along SR-74. (PC 1395)

It is Forest Service policy (Forest Service Manual 2672.3) to review all Forest Service planned, funded, executed, or permitted programs and activities for possible effects on endangered, threatened, proposed, or sensitive species. A biological evaluation is the means of conducting the review and of documenting biological findings.

In the case of Caltrans operations along SR-74 located on National Forest System land and authorized by a Department of Transportation easement, all non-routine maintenance and construction projects would require site specific analysis by the authorized highway agency with input from the Forest Service, inclusive of any necessary biological assessment/biological evaluation requirements. Except where provided for by a plan amendment, all new projects including projects along the easement for SR-74 must comply with forest plan standards.

The Forest Service should retain its consideration of hydropower as a responsible use of lands in the forest management plan for Cleveland National Forest. (PC 3046)

The Draft EIS mentions hydropower specifically in numerous places, but did characterize all energy production under the term "utility." We have clarified management intent to better address all forms of energy development using natural resources in the final forest plan.

The Forest Service should consider that the decommissioning of Public Works facilities that are under permit in the Angeles National Forest could have significant impacts on the larger infrastructure. (PC 3731)

Existing authorized infrastructure on National Forest System land is continued in all the alternatives of the FEIS and is available, subject to site-specific analysis, for the future expansion and collocation of compatible facilities. In all alternatives, land use zones including Developed Areas Interface, Back Country, and Back Country Motorized Use Restricted are suitable for future consideration of urban infrastructure for public benefit subject to site-specific analysis (see table 2.1.3, Suitable Uses Commodity and Commercial Uses).

The Forest Service program emphases in the Part 2 Strategy should reflect GPRA Goal 4 and the importance of the forests to meet energy needs and should not limit the granting of authorization for power line and hydroelectric facilities to when services cannot be accommodated on private lands. (PC 3751)

The wording in Part 2 has been changed from "Special uses are authorized only when they cannot be accommodated on private land" to "cannot be reasonably accommodated." The revised forest plan provides for continuing existing authorized utility use and occupancy. The direction regarding granting of special-use authorizations reflects policy from the Forest Service national directive system. (See the response to PC 569 in Energy and Utilities for more about the revised forest plan reflecting GPRA Goal 4.)

The Forest Service should phase out grazing permits, award no additional private building permits, terminate mineral claims as soon as legally possible, and not make new sites for electronic equipment available. (PC 2556)

The Forest Service does not have the authority to terminate any mineral claims or leases. In addition, the revised forest plans and Final Environmental Impact Statement look at the management of other special-uses. Existing sites designated for communication uses are continued in all the alternatives. The Granger-Thye Act (1950) provides for the issuance of grazing for up to 10 years. The revised forest plans are strategic and do not make site-specific decisions. A site-specific analysis and subsequent decision would need to be made to close a livestock grazing area. The site-specific analysis would use the Capability and Suitability guidelines in Appendix J in Part 2 of the revised forest plan.

Communication Sites and Facilities

The Forest Service should correct the list of Designated Communications Sites for the Cleveland National Forest to include Santiago Peak as the transmitter site for KWVE and Lyons Peak as a Ham Radio 2 meter repeater site for W6SS and is owned by a private party. (PC 3721)

Santiago and Lyons Peaks are continued as designated communication sites in the revised forest plan for consideration and authorization of communication uses. We have updated the table for Designated Communication Sites - Cleveland National Forest in the Other Designation section of Part 2 of the forest plan to include the footnotes from the site designation table of the current forest plan. For Santiago Peak, specific reference is made that existing senior use includes one FM broadcaster operating at a power level consistent with senior uses. Regarding Ham Radio operation at the Lyons Peak Government only site, public agencies may enter into cooperative arrangements with non-government radio operators to help perform the work of the agencies. For example, the State of California's "Volunteers in Prevention" program is a partnership with non-government radio operators to do the work of the State of California in fire suppression and prevention.

The Forest Service should consider an efficient use of existing communications sites and additional sites when there is a showing that there is clear public benefit, such as providing new services to rural communities. (PC 3722)

The national forests recently updated all the communication site plans for designated communication sites. There is ample capacity for additional communication uses at these sites for the areas they cover for the revised planning period. In national forest areas without radio coverage, the Developed Area Interface, Back Country, and Back Country Motorized Use Restricted land use zones provide areas suitable for consideration of future development of communication facilities.

Energy and Utilities

The Forest Service should indicate how the revised forest plans will be consistent with and implement the national energy policies and Strategic Goal 4, including to: ensure that the revised forest plans are consistent with current license agreements, easements, and existing special-use permits (including access needs); consider recommendations made by the Energy Task Force for obtaining energy resources; and to provide for continued service and economically sound upgrades to utilities providing services to both forest and surrounding areas. In addition, consider that a regional approach to designating utility corridors may benefit the public at large, but may not always be compatible with the more local and individual needs of the Forest Service, its tenants, and contractors. (PC 569)

The revised forest plan is a strategic document that describes guidance for the development of project proposals as well as monitoring of plan implementation. The designation of any National Forest System land for energy development and supporting infrastructure will be determined at the site-specific or project level. Adequate analysis done at the appropriate scale and scope will be done on any proposal advanced by the Forest Service.

The Forest Service fully supports the National Energy Initiative and would be able to accommodate proposals based on site-specific analysis. National Forest System land zoned as Developed Area Interface, Back Country, and Back Country Motorized Use Restricted is suitable for future consideration of utility infrastructure (see Part 2, Land Use Zones, Suitable Uses Table, Commodity and Commercial Uses). Plan amendment may also be accomplished through site-specific analysis at the project level. Authorizations for occupancy of National Forest System land stipulate the conditions for use to balance project need with resource management objectives.

Existing authorized utility infrastructure on National Forest System land is continued in all the alternatives of the FEIS and is available, subject to site-specific analysis, for the future expansion and co-location of compatible facilities. The revised forest plan does not affect the administrative processes used for the management of authorized utility access.

The Forest Service should reconsider the Strategic Goal 4 (regarding energy development on forests) to eliminate the apparent disconnect between it and policies, standards, guidelines, and exhibits. In addition, the Forest Service should consult with the public as to the appropriateness and priority of this goal, and focus on protecting natural forests. (PC 3540)

We believe Strategic Goal 4 is connected to the revised forest plan direction as well as other policy. The Forest Service supports the goals of the Multiple Use Sustained Yield Act and the National Energy Plan to supply resources for minerals and energy development, where it can be demonstrated after complete environmental analysis that development can be done in an environmentally sound manner. This is consistent with the other strategic goals such as those regarding biological resources conditions. In Part 1 of the forest plan, Strategic Goals, a statement has been added to address the needs of supporting the National Energy Plan: "The national forests have an essential role in contributing to an adequate and stable supply of mineral and energy resources while continuing to sustain the land's productivity for other uses and its capability to support biodiversity goals." The Management Challenges section in Part 1 lists one of the challenges associated with urbanization as: "accommodating the demand for energy fuels and industrial minerals for a growing and industrialized economy and population."

In Part 2 of each forest plan, the suitability of uses that include Minerals Resources Exploration and Development and Renewable Energy Resources is defined for all land use zones (see Suitable Uses Tables). The suitability of Oil and Gas Exploration and Development Areas is defined for land use zones on the Los Padres and Angeles National Forests. Part 2 of the forest plan for the Los Padres National

Forest references Oil and Gas resources under Program Emphasis and Objectives, Commodity and Commercial Uses.

The National Energy Plan is referenced in Part 3, Appendix A. In the FEIS, Chapter 3, Minerals and Energy and Effects on Minerals and Energy Development, both energy minerals and renewable energy resources are described and consequences are evaluated, in support of supplying energy resources for development.

Regarding consulting the public for agreement on the strategic goals related to energy development, the public has been consulted and all comments on the forest plan revision were considered (see FEIS, Chapter 1, Public Involvement; and Chapter 5. Public Comment on the Draft Revised Forest Plan and DEIS). Bear in mind that opinion is divided on most issues but analysis of comments is issue-driven rather than a voting process. A number of people commented against energy development or other commodities provided on the national forests. However, addressing energy needs is in the final revised forest plans because it is one of the Agency's national level goals and mandates.

The Forest Service should consider that a plan that prematurely eliminates or hinders the use of federal lands for renewable resource utilization is ineffective in achieving the federally mandated balance between population and resource use, and ensure that the Cleveland National Forest Plan creates appropriate programmatic opportunities for Elsinore Valley Municipal Water District to continue pursuing the development of both the Lake Elsinore Advanced Pumped Storage (LEAPS) and Talega-Escondido/Valley Serrano 500-kilovolt Interconnect projects. (PC 3669)

Development of the range of alternatives analyzed in the Draft Environmental Impact Statement (DEIS) is discussed in the response to PC 911 (Alternative Development and Range). The compatibility of priority utility corridors desired for present and expected future demand is addressed for each alternative (see FEIS, Chapter 3, Environmental Consequences, Non-Recreation Special Uses).

The DEIS is not a decision document nor will the Final Environmental Impact Statement and final revised forest plan make site-specific decisions such as designate new utility corridors or approve site-specific proposals. The designation of any National Forest System land for use as utility infrastructure will be determined at the site-specific or project level. Adequate analysis done at the appropriate scale and scope will be done on any proposal advanced by the Forest Service.

The Forest Service should revise the draft Land Management Plan for the Cleveland National Forest to: explicitly identify hydropower, including pumped storage hydropower, as a renewable energy resource; interject where appropriate, explicit reference to hydropower generation and storage and the transmission of electricity associated therewith as an allowable and desired forest use and potential renewable energy resource; address the need for additional energy infrastructure (especially in the Elsinore, Laguna and Morena places); indicate which utility projects are included in the discussion of large scale infrastructure utility projects; designate the proposed Lake Elsinore Advanced Pumped Storage (LEAPS) and Talega-Escondido/Valley Serrano 500-kilovolt Interconnect transmission alignments as a utility corridor; and include all appropriate programmatic references such that the final Land Management Plan for the Cleveland National Forest allows for a finding of consistency between the forest plan and these energy projects. (PC 3671)

Individual proposals such as the Lake Elsinore Advanced Pumped Storage and Talega-Escondido/Valley Serrano ventures were recognized as expected future demand and identified as compatible or non-compatible based on the management emphasis and subsequent zoning for each alternative. In the selected alternative, the unoccupied Elsinore/San Mateo priority corridor approximated by the Western Regional Corridor Planning Partnership, is generally within land use zones suitable for consideration of utility corridor development. Refer to the FEIS, Chapter 3, Effects on Non-Recreation Special Uses, for discussion addressing the compatibility of the proposals in each alternative. The Draft Environmental

Impact Statement is not a decision document nor will the Final Environmental Impact Statement and revised forest plan make decisions for the designation of land based on any site specific project level proposal. Please see the response to PC 569 and 3540 in this section for more about the addressing of energy development in the revised forest plans.

The Forest Service should consider that the claim that the Draft EIS statement regarding "declines in native riparian vegetation and create opportunities for non-native riparian species to take hold" is not accurate with regard to SCE's hydroelectric projects, which include sediment removal for dam maintenance purposes. (PC 3730)

The statement you reference in the DEIS (which carries forward to the FEIS) is not specific to any one impoundment but is an example of habitat alternation that could occur as a result of construction, use, and maintenance at any of these structures across the four southern California national forests. It is well documented that water impoundment can result in lack of natural scouring events that provide habitat conditions necessary for the germination and growth of native riparian species. When the natural events are interrupted and water depth at root level is decreased over time, nonnative species such as tamarisk and arundo can invade because of their ability to grow quickly with much less water at their root zone. Once established, they consume large amounts of water that again reduces amounts available to native riparian species. Regarding sediment removal, it is probable that native riparian species could be displaced in this process; however, this may not be the case as you mention in the stream locations on the San Bernardino National Forest. We commend SCE for working so well with the national forest to provide the appropriate level of protection and utilization of forest resources.

Minerals and Mining

The Forest Service should consider that even though an area is designated critical habitat it still remains open to prospecting. (PC 876)

The final revised forest plan incorporates mining law and other management direction into Part 3. The forest plan does not preclude prospecting in designated critical habitat; however, any activity that may cause surface disturbance will be subject to a Notice of Intent or Plan of Operations, depending on the scale of disturbance.

The Forest Service should consider the policies of the California Coastal Act and in the certified Big Sur Coast Land Use Plan. (PC 3550)

The Big Sur Coast Land Use Plan has been referenced as a guide for activities within the coastal zone (see Part 3, Appendix A). Specifically with regard to mining, the Big Sur Coastal Zone has been withdrawn from minerals entry. Existing claims with prior existing rights may still be mined as per the 1872 mining law, but any supporting developments such as roads would be subject to all of the planning and mitigation requirements of NEPA and the standards and guidelines of this forest plan. Once outside Forest Service jurisdiction, County and State regulations will apply. In addition to the lands withdrawn from minerals entry, the Oil and Gas Leasing FEIS (incorporated by reference in this document) identifies no developable oil and gas resources available for lease on the Big Sur coast. For both reasons, no exploration for oil and gas will be allowed on the Big Sur coast. For further information on the status of mining in the Big Sur, refer to the response to PC 3637 (Other Activities Mgmt (Mining, Utilities, Special Uses, combined)).

The Forest Service should initiate a formal process provided by the Federal Land Policy and Management Act for the withdrawal of lands from leasing availability or for revocation or non-renewal of existing leases if they are found to be adversely impacting California condors. (PC 3613)

See response to PC 3711 in this section. The Los Padres National Forest recently completed a Final Environmental Impact Statement (FEIS) on Oil and Gas leasing that reevaluates existing leases. When leases expire and where adverse impacts cannot be mitigated, those leases will not be renewed. This FEIS contains specific standards to protect wildlife including California condors and other threatened,

endangered and sensitive species. The FEIS identified a small amount of land for leasing out of the entire national forest. Only two of the eight areas identified by industry as having potential for development were recommended for potential leasing. Many of the potential oil and gas producing areas were eliminated because of low oil and gas potential and environmental concerns. In the area that was determined to be suitable for leasing, standards and guidelines for environmental protection were proposed, such as no surface occupancy, and setbacks from sensitive areas.

Prior to oil and gas exploration and development which could affect condors and other species, environmental analysis required by the National Environmental Policy Act and consultation with the U.S. Fish and Wildlife Service would be conducted. Strategic direction in Part 1 of the revised forest plan would be used to guide oil and gas development and Part 3 standards would apply. Specifically, standard S11 and standard S24 provide direction to avoid or minimize impacts to listed species, including the condor. Standard S28 is written specifically to avoid disturbance. In addition, the Oil and Gas Leasing FEIS has been incorporated into the revised forest plan for the Los Padres National Forest. Accordingly, standards in the Oil and Gas Leasing FEIS apply to all projects and activities on the Los Padres National Forest.

The Forest Service should ensure that the Final EIS should include a short description of the preferred alternative of the Los Padres National Forest Oil and Gas EIS. (PC 3709)

Excerpts from the Oil and Gas Leasing FEIS have been used to develop a summary which can be found in the response to a similar concern, PC 156 (Adequacy of Analysis). A summary can also be found in the Record of Decision for the forest plan revision for the Los Padres National Forest.

The Los Padres National Forest should go beyond incorporating the Oil and Gas Leasing DEIS into the Plan DEIS, and address key points regarding oil and gas management in the forest plan revision. The FEIS should adequately analyze: risks to the viability of the California condor; and human health and environmental risks from potential pipeline ruptures and leaks. The Forest Plan should balance competing forest uses and determine which areas of the forest in which oil and gas is the best use . (PC 3711)

See response to PC 3709 in this section and 156 in Adequacy of Analysis. Risks to the California condor and other threatened, endangered, sensitive and proposed species and their habitats, as well as issues such as ruptures and leaks have been thoroughly analyzed in the Oil and Gas Leasing FEIS and are also discussed in Chapter 3 of the revised forest plan FEIS in the section of the resource being affected. In addition, each proposal for development will undergo thorough project-level environmental analysis where your concerns will be addressed. Based on the analysis, the decision maker selected Alternative 4a as a best balancing of resources, uses and needs.

Inholdings (private property, mine claims, etc.)

The Forest Service should provide information on how they will protect the rights of the private property owners surrounding the wilderness area from people trespassing, and how private property owners can protect themselves from people trespassing and/or vandalizing property. (PC 3660)

Portions of the Raywood Flat B Inventoried Roadless Area are recommended for designation as wilderness in the selected Alternative 4a. Issues related to public trespass onto private land will be addressed in collaboration with other agencies and private landowners on a site-specific basis. Designation of National Forest System land as wilderness (or not) does not affect your private property rights.

The Forest Service should consider that public funds and public lands cannot be used to mitigate private applicants' projects or private applicants' habitat conservation plans. (PC 3996)

The revised forest plan does not address mitigation of private land's impacts on the national forests. There are some cases where the Department of Fish and Game or the U.S. Fish and Wildlife Service recommend mitigation for some impacts (such as riparian habitat loss to highways) with mitigation on the national forests such as nonnative arundo eradication. In these cases, the national forests will cooperate if the most logical place to mitigate is on the national forest. However, the funding for this work is always provided by the agency or landowner causing the impact.

Utility Corridors

The Forest Service should clarify if the utility lines noted (Elsinore Mountain to San Mateo and the El Cajon Mountain segment) are the only new lines being evaluated. (PC 3634)

The Forest Service is a signatory participant in the Western Regional Corridor Planning Partnership's Western Regional Corridor Study and used that document to characterize the demand for future utility infrastructure and evaluate compatibility of the identified corridors with the alternatives in the FEIS. The plan revision FEIS does not provide the project-level analysis necessary to evaluate or approve specific designated corridors. The agency recognizes the existence of the other project proposals. The revised forest plan is a strategic document that describes guidance for the development of project proposals. The designation of any National Forest System land for use as utility infrastructure will be determined at the project level. Adequate analysis done at the appropriate scale and scope will be done on any proposal advanced by the Forest Service.

The Forest Service should consider the need to grade pads and new access roads, use heavy equipment to install structures and string conductor, and the use of helicopters to assist in construction within utility corridors. (PC 3759)

The revised forest plan does not affect the administrative processes used for the management of authorized utility infrastructure. Special-use authorizations to occupy and use of National Forest System land stipulate conditions from policy and site specific analysis for sustainability of resource management objectives inclusive of provisions for fire protection when applicable.

The Forest Service should have utility companies conduct environmental impact studies before zoning, and then decide to zone for the utility or not according to what environmental impacts the Forest Service and the public want to sustain. (PC 3764)

The revised forest plans are strategic documents that describe the desired condition for the landscapes of the national forests. The zones represent the articulation of desired conditions. Various activities are described as suitable or compatible within the zones. All projects must contribute to the achievement of desired conditions over time. When an activity is not suitable within a zone, the activity can be implemented with a plan amendment and zoning change. The revised forest plans describe the strategic direction for the management of the national forest. The forest plans do not approve site-specific projects. Site-specific decisions are made based on the analysis done at the appropriate scope and scale.

Alternative Energy Sources

The Forest Service should use the forests as renewable fuel sources for productive use. (PC 2526)

The strategic direction described in the revised forest plans enables the management flexibility to consider alternative methods of energy production.

Role of Fire in Ecosystems

The Forest Service should consider that ecosystem fire ecology is a highly complex subject and different fire management techniques may be necessary on the Los Padres National Forest due to its different climatic region. (PC 1361)

Fire management practices on Los Padres National Forest are broadly similar to those used on the other national forests. However, differences in vegetation types and climate related to the northern portion of the national forest (Monterey Ranger District) dictate that the application of fire management practices should be tailored to the individual region and take into account climate, topography, ignition sources and geology. This is handled through site specific planning at the project level.

The Forest Service should consider that the ecosystems in the Wildland/Urban Interface are being type converted due to the frequency of fires because the exceptionally long recovery time and the increase in human-caused fires have converted some pinyon-juniper woodlands to desert chaparral or desert scrub. Cheat grass and red brome, non-native and undesirable grass species, have invaded some former stands as well. (PC 1442)

In the FEIS, Chapter 3, Vegetation Condition and Forest Health section, these type conversion issues are addressed in three vegetation communities: pinyon-juniper, coastal sage, and chaparral. Part 1 of the revised forest plan includes a desired condition to prevent inadvertent type conversion. A strategy emphasizing fire prevention in these areas is recommended in Part 2 of the revised forest plan.

The Forest Service should utilize prescribed burns frequently to help stop wildfires, and use buffers and tree trimming as a means to promote a healthy ecosystem. (PC 1444)

These activities are emphasized in all alternatives.

Fire Plans

The Forest Service should clarify which fire suppression plans correspond to each management alternative and land use zone. (PC 1278)

In the Draft EIS, the suppression policy in Alternative 6 was far less aggressive than in the other alternatives. In the final EIS, each alternative has the same basic suppression policy of full fire suppression of all wildland fires with the possibility of using confine/contain suppression strategies in more remote portions of the national forests. Management is occasionally put in the position of having to prioritize which fire to fight first when there are shortages of firefighters. When this happens, fires are prioritized based on threat to human life, and then private property and key resource values.

The Forest Service should consider requiring that local land managers evaluate the potential for catastrophic wildland fires, use all technological methods of fuels reduction and pest management, and thin the forest for forest health. (PC 1282)

The Forest Service continually evaluates hazardous fuels conditions to identify areas with high catastrophic fire potential. The Forest Service uses all technologies available, where appropriate, for reducing hazardous fuels. Funding is the limiting factor to annual accomplishments. Recent funding has been significantly increased to reduce catastrophic fire potential adjacent to and in mountain communities that are threatened by hundreds of thousands of acres of dead trees and shrubs resulting from the recent drought.

The Forest Service should concentrate fire prevention efforts in the Wildland/Urban Interface (WUI). (PC 1287)

The need to reduce suppression costs while protecting communities without sacrificing the biological health of the forest is integral to each of the alternatives. In the Affected Environment section of the

FEIS, fire occurrence is discussed in detail. Fires in general are human caused and occur in the urban interface, in areas of heavy recreation use, and along major travel corridors such as federal, state and county highways. Fire prevention efforts are aimed at all these areas rather than just in the urban interface. Each alternative provides major focus for vegetation management in the urban interface. The hazardous fuels program focus is from 75 percent (Alternatives 1 through 5) to 90 percent (Alternative 6) in the WUI.

The Forest Service should describe the status of each forest's Fire Management Plan and how they will be updated once the revised Forest Plans are approved, and also describe how the plan revisions integrate fire as a critical natural process. (PC 1323)

Each of the four southern California national forest's Fire Management Plans are currently up to date but will be updated in February of 2006 to provide consistency with the new final revised forest plan. In integrating fire as a critical natural process, the analysis indicates that fire use over most of the region is not feasible due to high fire spread rates and the proximity to communities (see table 533: Wildland Fire Spread Documentation). Fire suppression strategies do allow for confine/contain strategies in remote portions of the national forest, but typically prescribed fire will be utilized in place of natural fires to achieve resource management and community protection goals.

The Forest Service should place a high priority on protecting communities through the use of proper buffer zones. (PC 1447)

This is the highest Fire Management priority in all seven of the alternatives. The removal of dead trees near mountain communities is a public safety need common to each of the alternatives. There is nothing written in the LMP or EIS that indicates plans for logging only in those alternatives other than Alternative 6. The planned thinning of green trees and prescribed burning in general is based on a management objective of returning our forested areas to a pre-suppression condition.

The Forest Service should develop a realistic fire plan for national forests. (PC 1451)

In all alternatives, implementation of the National Fire Plan is emphasized with a focus on community protection. Alternative 6 has been modified to provide a level of fire control access similar to the other alternatives.

The Forest Service must allow appropriate mechanized access for wildland fire mitigation in proposed Research Natural Areas, proposed Special Interest Areas, and recommended Wilderness Areas. (PC 2096)

Research natural areas (RNAs) are discussed in the FEIS, Appendix F. Research Natural Areas. An RNA is a physical or biological unit in which current natural conditions are maintained as much as possible. These conditions are ordinarily achieved by allowing natural physical and biological processes to prevail without human intervention. Wildfires are extinguished as quickly as possible to minimize danger to RNAs using means that will cause minimal damage. Fuel treatments must provide a closer approximation of the naturally occurring vegetation and the natural processes governing the vegetation than would be possible without management. Fuel treatments are accomplished after site specific environmental analysis.

Special interest areas (SIAs) are discussed in the FEIS, Appendix G. Special Interest Areas. SIAs are specifically managed and marketed for recreation, visitor use, and education. Fire suppression efforts are not affected by this designation. Fuel treatments are accomplished after site-specific environmental analysis.

The Wilderness Act of 1964 and Forest Service Manual direction provide land managers with tools to reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness. This includes the use of motorized equipment and/or mechanical transport. Additional guidance could be provided by future legislative language for designation of the wilderness by Congress.

Prescribed fire may be utilized in wilderness to maintain wilderness values or provide for community protection near wilderness areas as per strategy SD-1 in Part 2 of the forest plan.

Fire and Fuels Management

The Forest Service should consider the tradeoffs that the different alternatives pose with respect to fire suppression because it is unclear what effects the road closures proposed under Alternative 6 would have on fire suppression. (PC 721)

In the final version of Alternative 6, the existing road system is left largely intact for administrative access in support of fire suppression and vegetation management projects. There is no longer a substantial difference between Alternative 6 and the other six alternatives with respect to fire suppression efficiency and vegetation management accomplishment.

The Forest Service should develop a new land management plan for the area of the San Bernardino National Forest extending from Cajon Pass to Mount San Geronio because of the intermixing of urban/suburban development in the area. (PC 894)

This comment refers to the need to more fully incorporate strategies for fuels management to protect large areas of urban communities located within and adjacent to the national forest from wildfire. The Forest Service recognizes the urgency for community protection and fuels treatment in southern California. In Part 1 of the forest plan, the following section has been added: Forest Goals and Desired Condition. Please see Goal 1.1 Community Protection that is specific to fire and fuels management. Please also see response to PC 775 in the Land Use zoning and Overlays, place-based program emphasis section.

The Forest Service should clarify the definition of "added community defense zones," because it is unclear whether the Forest Service would regulate development on undeveloped property adjacent to developed sites in Big Sur. (PC 1196)

The Forest Service has no regulatory authority on private lands but does comment on proposed development on private lands adjacent to the national forest. In working with the appropriate county level agencies that permit development, the Forest Service generally recommends 100 foot setback from national forest boundaries so that community protection needs related to private land occur on private land. The community protection guidelines outlined in Appendix K of the forest plan are for use around structures on National Forest System land or for the use of National Forest System land to make existing communities along the boundaries safer.

The Forest Service should adopt the following vegetation management standards in montane conifer forest types: In the zone extending from about 100 to 400 meters from the edge of towns, treat surface and ladder fuels; remove small dead trees and retain larger live trees; remove larger dead trees only if minimum fuel loads of 20 tons per acres is exceeded after removing smaller material; and strive to meet dead and downed objectives from governing land management plans. (PC 1238)

This recommendation is similar in philosophy to guidelines for development of community Defense Zones outlined in Appendix K of the final forest plan. While the Forest Service is planning on leaving enough large diameter dead trees in the Threat Zone for key wildlife species, these trees will normally be removed in the Defense Zone to enhance public and firefighter safety. The wildlife needs for dead and downed material are also to be handled in the same manner. Few if any downed logs will be left in the Defense Zone, but numerous downed logs may be left intact for wildlife in the community Threat Zone.

The Forest Service should consider monitoring some fires rather than engaging in immediate suppression because suppression is costly. (PC 1270)

A new table (table 533: Wildland Fire Spread Documentation) has been developed for the final EIS that helps clarify why the Forest Service is not planning on using naturally occurring fires to improve forest health. Fires spread very rapidly across the southern California landscape and often threaten communities

within the first 24 hours of the fire. In the more remote portions of the national forests, confine and contain strategies may be utilized, but the monitoring you describe relates to Wildland Fire Use, which is considered too risky for southern California.

The Forest Service should clarify the proposed level of fuels treatment. (PC 1271)

In Chapter 3, Environmental Consequences, Vegetation Condition and Forest Health, subsection montane conifer forest, we discuss the pace of work and the likelihood of converting acres from condition class 2 and 3 to condition class 1. A condition class table, however, would be unrealistic because it would not reflect acres converted by wildfires. Also see table 534: (Average Annual Hazardous Fuels Program).

The Forest Service should add law enforcement to the Fire Management Challenges as it appears under the Urbanization Management Challenges list. (PC 1272)

Arson-related incidents are admittedly one of the most serious actions that occur on the national forests. In context, these cases are one of many types of incidents that result in a law enforcement action, but do usually involve a lengthy investigation and prosecution effort by the Agency's Special Agents, often with assistance from a unit's Law Enforcement Officers, fire staff, and other cooperating agencies. As noted in the Wildland Fire and Community Protection section of the FEIS, 84 percent of all the fires on the four southern California national forests are human-caused. Arson-related fires are but one of the causal factors for increased fire ignitions. Please refer to the Wildland Fire and Community Protection section in Chapter 3 of the FEIS for additional information.

The Forest Service should use a variety of strategies to manage fires. (PC 1275)

The Forest Service does use a variety of strategies in managing fires. These are outlined in the Wildland Fire Situation Analysis that are completed on each significant fire. Through this process, decisions are made on which strategies or combination of strategies will have the highest probability of success in a fire suppression operation. In the Affected Environment section of the FEIS, there is a discussion on why natural fires are not utilized as part of the overall management scheme in southern California (see table 533: Wildland Fire Spread Documentation). The use of prescribed fire related to the fuels treatments listed under Resources Management in Part 2 of the forest plan provides an additional approach to the use of fire to meet forest health and community protection goals.

The Forest Service should clarify the Forest Service's management response to fire management in the community of Silverado. (PC 1281)

The Forest Service has not made any site specific commitments regarding Silverado Canyon or any other community in the document. Community Protection is the highest agency priority in the Hazardous Fuels Reduction program and is discussed extensively both in the Affected Environment and Environmental Consequences sections of the EIS. Road issues and taxation by the Orange County Fire Authority are other examples of site specific issues that are not within the scope of the revised forest plan and associated EIS.

The Forest Service should implement an effective and aggressive fire and fuels management program. (PC 1283)

Alternative 6 has been modified to provide a reasonable level of fire suppression and fuels treatment. All alternatives devote from 75 percent to 90 percent of the hazardous fuels budget to direct community protection in the wildland interface.

The Forest Service should emphasize protecting existing towns and communities from fire. (PC 1284)

All alternatives emphasize the protection of communities as the top fire management priority of the agency. By agency policy, any alternative must devote at least 75 percent of the hazardous fuels budget to reducing the fire hazard in the Wildland/Urban Interface. Each of the seven alternatives considered places

75 percent to 90 percent of the agency hazardous fuels budget in the Wildland/Urban Interface and addresses the concerns stated in your letter.

The Forest Service should distinguish between treatment strategies for the Defense and Threat Zones around communities. (PC 1285)

The differences between the Defense and Threat Zones are described in Appendix K, Part 3 of the final forest plan.

The Forest Service should be given reasonable flexibility to reduce fire risk in the Wildland/Urban Interface. Hazardous fuels reduction projects should be brought forward but not depend on establishment of a permanent road system. (PC 1288)

The analysis in the Affected Environment and Environmental Consequences section indicates that Forest Service roads are not a major factor in fire occurrence in most areas. Most fires originate on private land in the urban interface or on the national forest where major federal, state and county highways pass through or in the areas of the national forest where there is concentrated recreation use. Each alternative places from 75 percent to 90 percent of hazardous fuels reduction expenditures in the urban interface as you recommend. Little if any permanent road construction is expected to occur in the future and any temporary roads needed to facilitate the construction of community Defense Zones would be rehabilitated after use.

The Forest Service should consider that none of the alternatives reflect the mandates of the National Fire Plan and the Healthy Forests Restoration Act or the Sierra Nevada Framework. (PC 1291)

This plan for the four national forests in southern California has nothing to do with the Sierra Nevada Framework. The entire discussion regarding Community Protection and Wildland Fire Management in the EIS and forest plan is based on the National Fire Plan. The discussion of forest thinning needs under the hazardous fuels program in Part 2 of the forest plan is based on the Healthy Forest Restoration Act of 2003.

The Forest Service should allow roads and access in the backcountry to act as firebreaks and allow for fire and fuel management equipment. (PC 1299)

There are several scientific references related to the value of roads and fuelbreaks in fire suppression within the Affected Environment section of the FEIS. In the final version of the forest plan and EIS, Alternative 6 has been modified to restore the Forest Service roads needed for fire control and fuels management access. Consequently, all alternatives now provide a suitable level of access for fuels reduction and fire suppression.

The Forest Service should permit the natural cycle of fire in the forest. (PC 1300)

The potential use of natural fire was a part of the analysis. As per table 533: Wildland Fire Spread Documentation, there are a significant number of fires that spread rapidly over the landscape each year creating significant government liability if a naturally occurring fire is allowed to burn and then causes damage to a community. Impacts to human health based on long-term summer smoke production from fire use incidents was the other reason that allowing the natural cycle of fire is not recommended for these four southern California national forests. On the other hand, there is an obvious need to restore fire to the ecosystem, especially in the forested areas, where past fire suppression has been especially successful. Prescribed fire is recommended as the primary tool for accomplishing this, though there will be occasional situations in remote areas of the national forests where some of these objectives can be attained through use of the confine/contain suppression strategies.

The Forest Service should consider establishing a fire management buffer of 3-6 miles surrounding each mountain community with an implication being the elimination of the Back Country Non-Motorized designations on the north, south and west edges of the Bear Valley. (PC 1310)

Community Defense and Threat Zones are discussed at length in Appendix K of the forest plan and in numerous locations in the Affected Environment and Environmental Consequences section of the FEIS. The maximum width of a community Defense Zone is based on a national definition of what constitutes Wildland/Urban Interface (WUI). The national definition is a maximum of one and one half miles from the edge of a community. Treatments within WUI Threat and Defense Zones are suitable in Back Country Non-Motorized zoning.

The Forest Service should address the impacts of standard fire suppression techniques, fuel thinning and fuel modification planting in their strategies and should consider having coordination of all fuel thinning and fuel modification practices overseen by qualified ecologists/biologists and state resource agencies. (PC 1317)

There are numerous comments regarding the general effects of fire suppression throughout the Environmental Consequences section of the FEIS. During major fires, the Forest Service conducts a Wildland Fire Situation Analysis (WFSA) to determine alternative ways of suppressing the fire and what the site specific impacts are likely to be as a means of determining both the costs and the benefits of each alternative in suppressing the fire. Fuels treatment planning is always done on an interdisciplinary basis as you described when site specific planning is conducted.

The Forest Service should implement a hands-on approach to vegetation management by removing dead wood in a way that will cause the least amount of impact and avoid prescribed burns due to risk of escape. (PC 1319)

Other than tree mortality removal to maintain public safety, there is little fuels treatment activity planned within the burn areas of October 2003. The use of prescribed fire is recognized nationally as one of the major tools available for restoration of forest health and improving community protection. As you point out, such fires have escaped in the past, but the escapes have been few and the federal government is committed to the use of prescribed fire as other methods of achieving the same goals are so expensive as to severely limit potential accomplishment.

The Forest Service should clarify how specific forest fuel treatment measures reduce the potential of catastrophic wildfires because there should be a measurable standard based upon either a spatial area arrangement of trees and understory vegetation, fuel loading per acre, fire behavior or some combination of these elements. (PC 1327)

This forest plan is not prescriptive but programmatic in nature. Interdisciplinary planning teams utilized biologists, fire behavior experts, and silviculturalists to develop the prescription of standards for each area as a part of the site specific planning process. The Fireshed Assessment program is being developed as a way of implementing these site specific projects over a broad landscape to insure that fuel treatment projects contribute to improvement of forest health and are strategic in nature.

The Forest Service should continue to monitor and reduce fuel-loading and areas of high fire hazard and develop a system of planning and fire hazard reduction, including prescribed burning where appropriate. (PC 1328)

Due to insuring the National Fire Plan is implemented in any given alternative, the vegetation treatments are very similar across all alternatives with the only significant difference being that each alternative devotes approximately 75 percent of the hazardous fuels budget to Wildland/Urban Interface areas and Alternative 6 devotes 90 percent of that budget to the Wildland/Urban Interface. The analysis did not conclude that an increase in roads under Alternatives 2, 4 and 5 would result in any significant increase in fires as the analysis demonstrates that Forest Service roads are not a significant source of fires. As per the

discussion in the Affected Environment section of the FEIS, most damaging fires start in the Wildland/Urban Interface, areas of heavy recreation use, and along federal, state, and county highways that pass through the national forests.

The Forest Service should recognize the value of integrated pre-suppression vegetation management activities as implementation tools to manage watersheds to alleviate catastrophic wildfires, and to reduce the potential for significant erosion and sediment/debris flows emanating from burned watersheds with consideration given to the relationship of vegetation management, pre-suppression activities and watershed management/enhancement. (PC 1342)

This recommendation is the very basis for the construction and maintenance of fuelbreaks designed to limit wildfire patch size and to confine fires wherever possible to a single watershed. When suppression is successful, the potential for downstream flooding is greatly reduced. This issue is addressed in both the Affected Environment and Environmental Consequences sections of the FEIS.

The Forest Service should consider that there is no way to know what "pre-settlement conditions" when describing the forest. (PC 1343)

Historic records such as photographs from the late 1800s, written descriptions, and even the original vegetation monitoring plots (VTM plots) set up in the 1930s paint a good picture of what the landscape looked like prior to fire suppression. On this basis, the final version of the forest plan will include the objective of trying to recreate pre-suppression conditions rather than pre-settlement conditions.

The Forest Service should emphasize proper use of fire in ecosystem management and for wildfire protection, including burning programs with and without extensive brushing and piling. (PC 1346)

The Forest Service considers the use of fire in ecosystem management purposes and protection. National Forest managers utilize available science, resource specialists (fire ecologists, fisheries specialists, wildlife biologists, botanists (noxious weeds), archaeologists, soil scientists) and fire managers for moving ecosystems toward desired conditions (see Part 1 of the forest plan). The national forests' three to five year Fuel Strategies (see Part 2 of the forest plan) identify existing and planned fuels treatment areas.

The Forest Service should address the contributing factors and results (including mapping of the devastation) of the Cedar Fire. (PC 1347)

The portion of the draft forest plan regarding fire and community protection was written prior to the devastating fires of October 2003. Prior to those fires, it was emphasized in both the Affected Environment and Environmental Consequences sections of the DEIS that the potential for fires like the Cedar Fire were high due to continued development in hazardous areas and the mortality of hundreds of thousands of acres of trees and chaparral. In the Affected Environment section, there was also a discussion that summarized the difficulty of containing fires driven by Santa Ana winds and how Santa Ana winds result in large fires that are contained only after the weather changes. The Federal Wildland Fire Management Policy of 1995 (amended 2001) directs the Forest Service to cooperate with state and local government to help provide for community protection. The fire potentials previously mentioned and implementation of this policy led to the emphasis on Community Protection in this planning effort. The Cleveland National Forest website (www.fs.fed.us/r5/cl_evel_and) has specific investigative information and post-fire project information specific to the Cedar Fire in the Fire and Aviation section of the website.

The Forest Service should provide resolution between Strategy FH2 (Prevention of Type Conversion) and other fire policies. (PC 1349)

The effects of fire on coastal sage scrub are discussed in Chapter 3 of the FEIS, Environmental Consequences, Effects on Vegetation. The issue of fire frequency in coastal sage scrub and the visible decline of this plant community due to frequent fires has resulted in a need to limit vegetation management treatments over most of its range. The proposed management strategy in all alternatives is

to limit treatments to community Defense Zones and fuelbreaks only. The overall strategy is to lengthen the interval between fires in this type, but admittedly, this is an uphill battle due to the large number of human caused fire ignitions in the Wildland/Urban Interface.

The Forest Service should consider the contribution to fire prevention by utility company's routine clearing of vegetation around structures and roads, and accommodate utility access roads as they can also serve as fire access roads. (PC 1358)

Many of the roads built by the utility industry are important fire access roads within the national forests. Alternative 6 has been modified and no longer is associated with a significant reduction in access. Roads under special-use permit will be retained in all alternatives.

The Forest Service should consider the following concerns in its final management plan: placing less of an emphasis on prescribed burns, avoiding vegetation conversion, placing more emphasis on the Wildland/Urban Interface, and the reestablishment of fire towers. (PC 1359)

Prescribed burning is not the only tool to be utilized in reducing fire hazards and protecting communities but when used, is based on sound science. This is discussed in the Environmental Consequences section of the FEIS. Avoiding type conversion is emphasized in the Affected Environment section related to three specific vegetation types: coastal sage, pinyon-juniper, and chaparral. The emphasis on the Wildland/Urban Interface ranges from 75 percent to 100 percent in the alternatives and the national policy of the Forest Service is a minimum of 75 percent of funds directed towards hazardous fuels reduction will be expended within the Wildland/Urban Interface. As far as the use of lookouts goes, they are on the decline in California due to poor air quality and the plethora of aircraft pilots and drivers of passenger vehicles quickly reporting fires by radio or cell phone.

The Forest Service should consider not developing a program that scrapes all the vegetation off of all of the ridgelines when installing firebreaks along watershed boundaries. (PC 1363)

Fuelbreaks are one of the forest strategies (see Appendix B of Part 2 of the forest plan). Fuelbreak construction or maintenance does not require the removal of all vegetation. Your concern regards impacts to soils regarding firebreak construction and maintenance. While often located on ridgetops, these fuelbreaks are not barren of vegetation like the old firebreaks were. Fuelbreaks are usually covered in grass, buckwheat or some other form of herbaceous vegetation that is relatively easy to suppress fires in.

The Forest Service should consider using Strategically Planned Landscape Area Treatments (SPLATS) as part of the thinning and prescribed fire, particularly in areas of conifer forests adjacent to the interface/intermix areas. (PC 1366)

The Wildland Fire section of the FEIS speaks to the philosophy of SPLATS without using SPLATS terminology. Like the SPLATS approach utilized in the Sierra Nevada national forests, the approach in southern California will also be strategic in nature.

The Forest Service should consider that foam is more toxic to fish than long-term retardants and use long-term fire retardant free of sodium ferrocynaide before considering the use of foam when implementing Minimum Impact Suppression Tactics. (PC 1374)

The use of fire retardant and foam is outlined in Appendix F of the forest plan. Neither product is used in aquatic environments and the Forest Service is obligated by law to follow the label instructions from the manufacturer.

The Forest Service should implement a plan that emphasizes fire suppression in the chaparral. (PC 1376)

With the exception of vegetation management in community Defense Zones, the plan emphasizes management of chaparral with long fire return intervals to maximize chaparral health and to prevent type

conversion. Monitoring of past prescribed burn areas indicates that chaparral communities have only been compromised on rare occasions by prescribed burning that were conducted in the spring season.

The Forest Service should clarify its plans for "Vegetation Condition and Fire Management" to explain how many acres of vegetation will be treated mechanically, by prescribed fire, by grazing or otherwise, and whether treatments are initial or repeating. (PC 1380)

The method of hazardous fuel reduction work is selected through the development of a site specific environmental analysis for each project. Generally speaking, most of the mechanical work will occur in community Defense Zones and on fuelbreaks. The various types of projects are referenced in table 534: (Average Annual Hazardous Fuels Program). All projects should be considered initial other than the projects under fuelbreak maintenance, which are considered repetitive. Grazing is typically used as a fuelbreak maintenance tool, but prescribed burning is also used to achieve the same purpose. Once again, the tool to be utilized is selected as part of the proposed decision resulting from a site specific environmental analysis.

The Forest Service should adopt the following management standards in the montane conifer forest types in the zone extending about 100-400 meters from towns, powerlines and other infrastructures: create shaded fuelbreaks; treat surface ladder fuels; limb remaining trees up to 5 meters; and continually maintain the fuelbreaks to prevent invasion of exotic grasses and growth of understory vegetation. (PC 1381)

The guidelines in Appendix K of the final forest plan are for implementation of defensible space around structures within the national forest. They were developed by several Fire Behavior Analysts, experts in predicting fire behavior and what the amount of defensible space is needed for firefighter safety in defending these structures would be. One hundred meters is the absolute minimum Defense Zone needed in the montane conifer forest type. In many cases, Forest Service fire experts advise a much wider zone, especially where steep slopes are involved. Soil disturbance in the Defense Zone will generally be necessary to achieve the guidelines in Appendix K. The measures outlined for additional work in the Threat Zone will often be completed without excessive ground disturbance as the priority will be the reduction of ladder fuels and prescribed burning to result in lower intensity of future wildfires as they approach the Defense Zone. Erosion control and invasive weed control needs can be expected as a result of implementing the construction and maintenance of community Defense and Threat Zones. The Appendix K guidelines do not call for wholesale vegetation clearance and accommodate tree thinning and brush thinning over complete removal.

Prescribed Fire

The Forest Service should continue controlled burning practices. (PC 1296)

We are continuing to use prescribed burning as a management technique and we also have acknowledged that the vast majority of ignitions are anthropogenic. The Forest Service plans on continuing prescribed burns and hazardous fuels treatments (see desired conditions in Part 1 of the forest plan).

The Forest Service should practice controlled burns around the edge of the San Rafael Wilderness to protect urban interface areas in the eastern Santa Maria Valley. (PC 1468)

Site specific decisions are outside the scope of this forest plan. However, areas of older brush are often targeted for prescribed burning because there is a high percentage of dead material in old chaparral that contributes to high wildfire intensities and rapid rates of spread. Also note that an additional strategy (SD-1) has been placed in the final version of the forest plan that will allow for prescribed burning in wilderness areas to provide for wilderness values or to enhance community protection along wilderness boundaries.

The Forest Service should address impacts of prescribed burn programs on sedimentation. (PC 1471)

The prescribed burning programs are smaller in scale and for the foreseeable future focused on protection of the Wildland/Urban Interface (WUI). The 1987 proposal to carrying out prescribed burning of chaparral on a rotation schedule has been dropped as not being possible either logistically or financially. Effects of erosion and sedimentation are considered as part of the management activity or projects conducted on Forest Service land.

The Forest Service should consider providing statistics of the acreage that is burned through prescribed burns within each air basin annually to address the impact of prescribed burning. (PC 1472)

Prescribed fires are closely regulated by the state, requiring issuance of site specific open burning permits. The planned and completed wildland fire acreages can be obtained by contacting the national forest's fire management staff. FEIS table 102: Estimated Annual Wildland Fire Emissions -- tons/year displays the estimated annual wildland fire non-attainment criteria pollutant emissions and the historical wildfire emissions by alternative and air pollution control district. Reference table 534: Average Annual Hazardous Fuels Program in Part 2 for the optimal amount of prescribed burning.

The Forest Service should eliminate prescribed burning because of its effects on imperiled species. (PC 1473)

The effects of prescribed fire and fire in general is discussed in the biodiversity section of the FEIS (effects of fire management on species). These effects need to be determined at the site-specific project level.

The Forest Service should eliminate prescribed burns in chaparral because of type conversion. (PC 1476)

Repetitive wildfires have generated substantial loss of coastal sage and chaparral at the lower elevations. Prescribed fire monitoring during the past 20 years indicate only a few cases of type conversion related to prescribed burning. Where chaparral lands have been degraded by excessive fire frequencies, prescribed fires are not implemented. Part 1 of the forest plan identifies a goal to prevent type conversion.

Fire Management in Designated Wilderness

The Forest Service should modify Alternative 6 to include language necessary for adequate fire protection of wilderness areas, as well as increases in environmental education and monitoring of unauthorized use. (PC 722)

The notion that wilderness designation makes fire suppression more difficult and restrictive is not based on fact. All roadless areas (including designated wilderness) are difficult to suppress fires within because of our inability to drive there to put the fire out with fire engines. The current protocol to obtain permission to use mechanized equipment to suppress wilderness fires is not a time consuming process or significant barrier to fire suppression efficiency. The encumbrances firefighters encounter in fighting wilderness fires are the same logistical challenges they face in any firefighting situation without road access.

In the final version of Alternative 6, the existing road system is left largely intact with administrative access in support of fire suppression and vegetation management projects. There is no longer a substantial difference between Alternative 6 and the other six alternatives in respect to fire suppression efficiency and vegetation management accomplishment.

The Forest Service should clarify the prohibition of prescribed burning in wilderness areas contained in the land management plan as it appears to be in conflict with the current restoration strategy developed by the Forest Service, the California Department of Fish and Game, and other organizations that recommend prescribed burning, even in wilderness areas, to improve bighorn sheep habitat conditions. (PC 1168)

The selected alternative (Alternative 4a) adopted in the final revised forest plan has been written to provide for prescribed burning in wilderness areas to maintain or imitate natural processes (Part 1, Goal 3.2) and to maintain wilderness values (Part 2, Strategies SD1). Nothing in the forest plan precludes prescribed burning. Prescribed burning may be used to maintain wilderness values, which includes sheep, where they currently exist. The conservation strategy for the San Gabriel bighorn population and the Peninsular Bighorn Recovery Plan also provide direction by reference in Appendix H.

The Forest Service should consider in their wilderness evaluation of Sugarloaf IRA that fire and fuels management can be accommodated within wilderness, and that minimum tool is desired but does not limit what minimum tool might be used in a given situation and environment. (PC 1290)

A new strategy (SD-1) was placed in Part 2 of the forest plan for each national forest to demonstrate that prescribed burning may occur in wilderness, whether to maintain wilderness values or for community defense. Minimum tool relates to the concept of choosing the least impact, but effective, suppression technique for each situation in wilderness or other areas sensitive to fire suppression techniques as per the FEIS Appendices related to Minimum Impact Suppression Techniques. A typical example would be choosing a small hand built fireline versus line built with a bulldozer.

The Forest Service should ensure that Incident Commanders have the ability to fight fires and respond without delay to wildfire incidents anywhere in the Forest including in wilderness, and make this direction clear in the fire management suitability tables. (PC 1336)

Forest Service response to wildfires in southern California national forest wilderness is similar to anywhere else within the national forests. Qualified incident commanders are assigned to every national forest wildfire. See Appendix B of the forest plan, Part 3 for information about Minimum Impact Suppression Tactics (MIST) used for wilderness wildfire management. Alternative 6 has been modified to provide largely the same fire suppression access as the other alternatives.

The Forest Service should consider creating defensible space around wilderness. (PC 1355)

Forest Service emphasis is on defensible space in the Wildland/Urban Interface. Defensible space may be created between high-risk areas and wilderness to minimize establishment of large fires in remote areas. Typically, defensible space is not needed to protect wilderness areas.

The Forest Service should evaluate its policies on the role of wildland fire use in designated wilderness because full suppression in remote areas of the forest will exacerbate the already recognized and unintended consequences of full suppression. (PC 1435)

The potential liability regarding wildland fire use is a real issue in the southern California national forests. After reviewing comments about this problem, table 533 (Wildland Fire Spread Documentation) was developed for inclusion in the final version of the Affected Environment section of the FEIS. This table outlines a substantial number of fires that have recently moved great distances across national forest landscapes in southern California, threatening numerous communities within the first 24 hours following the ignition. While the writer correctly points out that the large wilderness areas on the Los Padres National Forest would provide the best location to attempt fire use management, the air quality impacts to the southern San Joaquin Valley was a major reason that fire use was not selected as a part of the management philosophy for these areas. On any of the four southern California national forests, when the conditions are right, confine and contain suppression strategies may be used to obtain some resource benefit over a short period of time while implementing a fire suppression operation. The analysis

indicates that most of the chaparral covered forests are in healthy condition and fire exclusion is not a problem. The fire suppression impacts you mention are evident in the montane and yellow pine forests and are a focal point of the discussion on forest health, mortality removal, community defense, and tree thinning in both the FLMP and FEIS.

The Forest Service should consider the severe impact that wilderness designations have on its ability to meet the mandates of the Forest Service National Management Plan, State Fire Management Plan, and the Healthy Forest Restoration Act of 2003. (PC 2185)

The Forest Service has addressed the concerns of fire and fuels management in the evaluation of potential wilderness recommendations. See Appendix D. Inventoried Roadless Areas (IRAs) of the FEIS and the Reading Room (www.fs.fed.us/r5/scfpr/read/). The effects of wilderness designation on wildland fire management are also discussed in Chapter 3, Environmental Consequences, Effects on Wildland Fire and Community Protection.

Wilderness is a unique and vital resource, a place where natural processes dominate. In addition to offering primitive recreation opportunities, it is valuable for its scientific and educational uses, as a benchmark for ecological studies, and for the preservation of historical and natural features. However, land managers still have the full ability to suppress wildfires with the use of motorized equipment and mechanical transport in wilderness if needed. In addition, prescribed fire may be used in wilderness if it meets wilderness fire management objectives.

The San Bernardino National Forest should create new wilderness management plans. (PC 2194)

The analysis for wilderness fire and fuels management has been strengthened in the FEIS under the Wildland Fire and Community Protection section of Chapter 3. In Part 2 of the forest plan, in the strategies also see SD 1 for clarification on fire activities in wilderness. Accomplishment of program strategy and tactics (including development of wilderness implementation schedules) depends upon program emphasis objectives, national and regional direction, and available funding (also see Place Emphasis in Part 2 of the forest plan).

The Forest Service should better inform the public on the laws and regulations that govern fire management in wilderness areas, including detailed explanation in the Forest Plan of the practical differences in wilderness fire fighting from fire fighting in all other land use zones. (PC 2228)

There appears to be some confusion regarding wildfire, prescribed fire and wilderness areas. The analysis and/or direction for wilderness fire and fuels has been strengthened in the FEIS and revised forest plan. See the FEIS, Chapter 3, Environmental Consequences, Effects on Wilderness areas regarding fire suppression challenges due to the roadless nature of wilderness. Protocols exist and are often utilized for approval of the use of equipment and aircraft to fight fires in wilderness areas. Fears that a lack of fire suppression capability in wilderness will result in damage to communities is mitigated in part by the adoption of a wilderness fire strategy that allows for prescribed burning in designated wilderness to maintain wilderness values or to provide for community protection. This wilderness management strategy is labeled SD-1 and is located in Appendix B in Part 2 of the forest plan.

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2169	479
2170	471
2172	462
2173	445
2178	483
2179	473
2185	597
2188	477
2194	597
2196	488
2201	406
2203	488
2212	488
2220	475
2222	433
2223	482
2224	480
2225	485
2228	597
2234	485
2235	485
2236	485

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2240	487
2241	479
2242	487
2244	482
2245	487
2246	482
2247	479
2248	487
2249	471
2250	486
2251	484
2252	484
2253	481
2256	478
2257	489
2259	478
2260	481
2262	489
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2272	484
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2284	490
2285	480
2287	480
2288	483
2289	483
2291	488
2295	480
2298	481
2299	486
2301	486
2302	476
2303	489
2304	486
2305	480
2311	494

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2314	498
2316	495
2317	491
2321	500
2322	495
2325	502
2326	502
2327	493
2329	498
2330	499
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2336	495
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2347	500
2348	501
2349	497
2354	497
2356	492
2357	494
2358	494
2361	498
2362	500
2363	500
2364	499
2372	494
2373	494
2374	496
2375	496
2376	498
2377	501
2378	465
2383	492
2386	467
2387	498
2388	497
2389	378
2390	493
2393	452
2394	468
2396	469
2398	469

Public Concern Code	Summary and Response on Page
2400	470
2402	470
2403	470
2407	555
2408	556
2410	556
2412	453
2414	518
2417	516
2418	517
2419	517
2424	467
2425	454
2426	467
2429	453
2431	453
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2504	512
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2542	570
2544	570
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2567	573
2569	573

Public Concern Code	Summary and Response on Page
2570	573
2573	573
2575	574
2576	574
2578	574
2579	574
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2602	575
2605	575
2612	575
2614	575
2615	575
2622	575
2623	576
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2628	576
2630	506
2631	576
2638	577
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2644	577
2645	577
2646	578
2651	578
3007	434
3011	540
3019	540
3027	450
3046	579
3047	512
3052	541
3062	378
3063	541
3066	379
3068	438
3071	486
3072	379
3073	379
3074	379
3075	450
3077	380
3079	380

Public Concern Code	Summary and Response on Page
3081	380
3082	380
3084	380
3085	438
3090	544
3091	511
3092	510
3511	529
3513	529
3517	530
3519	472
3522	403
3523	385
3524	376
3525	380
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3530	389
3531	401
3534	442
3536	387
3540	581
3550	583
3560	566
3574	443
3576	472
3579	567
3608	472
3612	567
3613	583
3614	567
3622	568
3634	585
3637	568
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3660	584
3664	514
3669	582
3671	582
3675	578
3681	544
3682	544
3684	400

Public Concern Code	Summary and Response on Page
3685	544
3686	545
3687	545
3688	515
3691	545
3693	545
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3709	584
3711	584
3714	569
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3781	549
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4046	537

Public Concern Code	Summary and Response on Page
4048	537
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4054	537
4056	538
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4562	527
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4574	565
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4982	566
4994	528
5006	566
5016	528
5017	528
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5023	528
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5033	445
5034	445
9775	419
9776	420
9778	421
9783	422
9784	422
9785	422
9786	427
9795	431
9796	431
9799	432
9997	398
9998	411

List of Recipients

Copies of the final revised land and resource management plan (forest plan), Final Environmental Impact Statement, and/or Executive Summary were sent to the following elected officials, tribal governments, federal, state, and local agencies, organizations, businesses, and libraries:

Elected Federal Officials

Senator Barbara Boxer	Congressman Howard "Buck" McKeon
Senator Dianne Feinstein	Congresswoman Jane Harman
Congressman Adam Schiff	Congressman Jerry Lewis
Congressman Bob Filner, District 50	Congressman Joe Baca
Congressman Brad Sherman	Congressman Kenneth Calvert, District 44
Congressman Christopher Cox, District 48	Congresswoman Linda Sanchez
Congressman Darrell Issa, District 49	Congresswoman Loretta Sanchez, District 47
Congressman David Dreier	Congresswoman Lucille Roybal-Allard
Congresswoman Diane Watson	Congresswoman Mary Bono
Congressman Duncan Hunter, District 52	Congresswoman Maxine Waters
Congressman Ed Royce, District 40	Congressman Randy "Duke" Cunningham, District 50
Congressman Gary Miller, District 42	Congresswoman Susan Davis, District 53
Congresswoman Hilda Solis	

Elected State Officials

Senator Bill Morrow, District 38	Assemblyman Jay La Suer, District 77
Senator Deirdre Alpert, District 39	Assemblyman John Benoit, District 64
Senator Denise Ducheny, District 40	Assemblyman Juan Vargas, District, District 79
Senator George Runner	Assemblyman Keith Stuart Richman
Senator Gloria Romero	Assemblyman Mark Wyland, District 74
Senator Jack Scott	Assemblywoman Patricia Bates, District 73
Senator Jim Batten, District 37	Assemblyman Ray Haynes, District 66
Assemblywoman Bonnie Garcia, District 80	Assemblywoman Sharon Runner
Assemblywoman Christine Kehoe, District 76	Assemblywoman Shirley Horton, District 78
Assemblyman Dennis Hollingsworth, District 36	Assemblyman Todd Spitzer, District 71
Assemblyman Dennis Mountjoy	Assemblyman Tony Strickland
Assemblyman George Plescia, District 75	

Elected City Officials

Honorable Bill Campbell, District 3 - Orange County Board of Supervisor's
Honorable Bill Horn, District 5 - San Diego County Board of Supervisor's
Honorable Bob A. Buster, District 1 - Riverside County Board of Supervisor's
Honorable Diane Jacobs, District 2 - San Diego County Board of Supervisor's
Honorable Don Knabe, District 4 - County of Los Angeles
Honorable Gloria Molina, District 1 - County of Los Angeles
Honorable Gregory Cox, District 1 - San Diego County Board of Supervisor's
Honorable John Tavaglione, District 2 - Riverside County Board of Supervisor's
Honorable Michael Antonovich, District 5 - County of Los Angeles
Honorable Pam Slater, District 3 - San Diego County Board of Supervisor's
Honorable Ron Roberts, District 4 - San Diego County Board of Supervisor's
Honorable Yvonne Brathwaite Burke, District 2 - County of Los Angeles
Honorable Zev Yaroslavsky, District 3 - County of Los Angeles

Tribal Governments

Acjachemen Nation	Morongio Band of Mission Indians
Agua Caliente Band of Cahuilla Indians	Pala Band of Mission Indians
Agustine Band of Mission Indians	Pauma Band of Mission Indians
Barona Band of Mission Indians	Pauma & Yuima Band of Mission Indians
Cabazon Band of Mission Indians	Pechanga Band of Mission Indians
Campo Band of Mission Indians	Ramona Band of Mission Indians
Cahuilla Band	Rincon Band of Mission Indians
Ewiiapaaype Band of Mission Indians	San Luis Rey Band of Mission Indians
Inaja/Cosmit Band of Mission Indians	San Manuel Band of Mission Indians
Ish Perresh United Band of Indians	San Pasqual Band of Mission Indians
Kwaaymii Laguna Band	Santa Rosa Band of Mission Indians
Jamul Band Of Mission Indians	Santa Ysabel Band of Mission Indians
Juaneno Band of Mission Indians	Soboda Band of Mission Indians
La Jolla Band of Mission Indians	Soboda Tribal Office
La Posta Band of Mission Indians	Sycuan Band of Mission Indians
Los Coyotes Band of Mission Indians	Torres-Martinez Desert Cahuilla Indians
Manzanita General Council	Viejas Tribal Council
Mesa Grande Band of Mission Indians	

Federal Agencies

Advisory Council on Historic Preservation	USDA, Forest Service, Los Padres National Forest
Environmental Protection Agency, Region 9	USDA, Forest Service, San Bernardino National Forest
Federal Aviation Administration, Office of the Regional Administrator	USDA, National Agricultural Library
Federal Aviation Administration, Western-Pacific Region	USDA, Natural Resources Conservation Service
Federal Energy Regulatory Commission	US Department of Commerce, NOAA National Marine Fisheries
National Marine Fisheries Service, Habitat Conservationists Division Southwest Region	US Department of Defense
Natural Resources Conservation Service	US Department of Energy, Office of NEPA Policy and Compliance
NOAA, Office of Policy and Strategic Planning	USDI, Bureau of Indian Affairs
Office of General Council	USDI, Bureau of Land Management
Rural Utilities Service	USDI, Fish & Wildlife Service
US Army Corps of Engineers	USDI, National Park Service
US Army Engineer Division, South Pacific	USDI, National Park Service, Cabrillo National Monument
CESPD-CMP	USDI, Office of Environmental Policy and Compliance
USCG, Environmental Impact Branch, Marine Environmental and Protection Division	US Department of Transportation
United States Department of Agriculture	US Geological Survey
USDA, AHIS PPD/EAD	US Navy
USDA, Forest Service, Angeles National Forest	
USDA, Forest Service, Cleveland National Forest	

State Agencies

CA Coastal Commission	CA Environmental Project
CA Department of Fish & Game	CA Environmental Protection Agency, Los Angeles
CA Department of Forestry	CA Exotic Pest Plant Council
CA Department of Health	CA Habitat & Environment Protection
CA Department of Justice	CA Regional Water Quality Control Board
CA Department of Parks & Recreation	CA State Lands Commission
CA Department of Public Works	CA State Parks
CA Department of Transportation	CA State Senate Office of Research
CA Department of Water Resources	

Local Agencies

Acton Town Council	City of Goleta	City of Taft
Agua Dulce Town Council	City of Hemet	City of Temple City
Alpine Fire Department	City of Irwindale	City of West Covina
Big Bear City Fire Department	City of La Canada Flintridge	City of Whittier
Big Bear Lake Fire Department	City of Lancaster	Claremont City Hall
Big Bear Municipal Water District	City of La Puente	Corona Fire Department
Big Bear Valley Recreation & Park District	City of La Verne	Coronado Fire Department
Big Sur Fire Brigade	City of Lompoc	County of Imperial
Borrego Springs Fire Department	City of Los Angeles	County of Kern
Camp Pendleton Fire Department	City of Los Angeles, Department of Parks & Recreation	County of Los Angeles
Cathedral City Fire Department	City of Monrovia	County of Monterey
Casitas Municipal Water District	City of Oceanside	County of Orange
Chula Vista Fire Department	City of Ojai	County of Riverside
City of Alhambra	City of Palmdale	County of San Diego
City of Arcadia	City of Palm Desert	County of Santa Barbara
City of Arroyo Grande	City of Palm Springs	County of Ventura
City of Azusa	City of Pasadena	Deer Springs Fire Department
City of Baldwin Park	City of Poway	Descanso Planning Group
City of Big Bear Lake	City of Rancho Mirage	El Cajon Fire Department
City of Bradbury	City of Rosemead	Glendale Fire Department
City of Burbank	City of San Diego	Goleta Municipal Water District
City of Carmel	City of San Diego, Lakes Program & Water Utilities	Greater Los Angeles Federal Executive Board
City of Cathedral City	City of San Dimas	Hemet Fire Department
City of Colton	City of San Gabriel	Idyllwild Fire District
City of Corona	City of San Jacinto	Idyllwild Water District
City of Coronado	City of San Juan Capistrano	Imperial Beach Fire Department
City of Covina	City of San Marcos	Julian Commission Planning Group
City of Del Mar	City of San Marino	Julian Fire Department
City of Duarte	City of Santa Barbara	Kern County Board of Supervisor's
City of El Monte	City of Santa Clarita	Kern County Fire Department
City of Encinitas	City of Santa Fe Springs	Lake Arrowhead Fire Department
City of Fillmore	City of Santa Maria	Lakeside Fire Department
City of Glendale	City of Santa Paula	La Mesa Fire Department
City of Glendora	City of Sierra Madre	La Verne Fire Department
	City of South El Monte	
	City of South Pasadena	

Local Agencies (cont.)

Lemon Grove Fire Department	Orange County Transportation Authority	San Luis Obispo County Parks Department
Littlerock Town Council	Pala Fire Department	San Miguel Fire Department
Los Angeles City Fire Department	Palmdale Water District	San Onofre Fire Department
Los Angeles County Board of Supervisor's	Palm Springs Fire Department	San Pasqual Fire Department
Los Angeles County Department of Parks & Recreation	Pechanga Fire Department	Santa Barbara County Board of Supervisor's
Los Angeles County Department of Public Works	Pasadena Fire Department	Santa Barbara County Fire Department
Los Angeles County Department of Regional Planning	Ramona Fire Department	Santa Barbara County Fish & Game Commission
Los Angeles County Division of Forestry	Pechanga Environmental Program	Santa Barbara County Parks Department
Lower Sweetwater Fire Protection Department	Riverside County Fire Department	Santa Barbara County Planning & Development
MCAS Miramar Fire Department	Riverside County Fish & Game	Santa Barbara County Department of Public Works
Monrovia Fire Department	Riverside County Parks	Santa Barbara County Department Transportation & Flood Control
Montecito Fire Department	Riverside County Regulatory Park & Open Space	Santa Barbara Farm Bureau
Montecito Water District	San Antonio Canyon Town Hall	Santee Fire Department
Monterey County Board of Supervisor's	San Bernardino County Board of Supervisor's	Sierra Madre Fire Department
Monterey County Planning & Building Department	San Diego County Fish & Wildlife Commission	South Pasadena Fire Department
Morongo Fire Department	San Diego County Parks & Recreation	Sweetwater Authority
Murrieta Fire District	San Diego Department of Parks & Recreation	Sweetwater Planning Group
National City Fire Department	San Diego Water Quality Control Board	United Water Conservation District
Orange County Fire Authority	San Gabriel Fire Department	Ventura County Planning Division
Orange County Search & Rescue	San Luis Obispo County Board of Supervisor's	Warner Springs Public Safety
	San Luis Obispo County Fish & Game Commission	

Organizations, Businesses, and Media

American Snowmobilers Association	Public Interests Environmental Law
Anza Electronic Cooperative Inc.	San Marcos Trout Club
Big Bear Valley Historical Society	Save Our Forests Association
California Forest Homeowners Association	Sierra Club, Los Angeles Chapter
CATO Geographical Science Inc.	Sierra Club, San Diego Chapter
Coastal Steward Council	Sierra Club, Santa Lucia Chapter
Land Conservation, the	Sierra Club, Ventana Chapter
Little Baldy Water Company	Southern California Edison
Mt. Wilson Observatory	Student Conservation Association
Native American Advisory Council	Ventana Wilderness Society
Pacific Crest Trail Association, Vashon Washington	Wildlife Research Institute
Palomar Mtn. Fire Safe Council	Zoological Society of San Diego
Palomar Mtn. Planning Organization	

Libraries

Adelanto Branch Library	Goleta Branch Library
AK Smiley Library	Grand Terrace Branch Library
Alhambra Public Library	Harrison Memorial Library
Alpine Branch Library	Hesperia Branch Library
Altadena Library	Highgrove Branch Library
Anza Branch Library	Highland Branch Library
Apple Valley Branch Library	Honnold Mudd Library
Arcadia Public Library	Idyllwild Branch Library
Arlington Branch Library	Indio Branch Library
Arroyo Seco Public Library	Irwindale Public Library
Azusa City Library	John M. Pfau Library
Bakersfield College Library	John Muir Branch Library
Baldwin park Public Library	John Steinbeck Library
Beale Memorial Library	Joshua Tree Branch Library
Beaumont Library District	Julian Public Library
Big Bear Branch Library	Kaiser Branch Library
Blanchard Community Library	Kapsala Community Library
Bloomington Branch Library	King City Library
Burbank Central Library	La Canada Flintridge Library
Cal Poly Pomona University Library	La Quinta Branch Library
Calimesa Branch Library	La Sierra Branch Library
Camarillo Library	Lake Arrowhead Branch Library
Carpenteria Branch Library	Lake View Terrace Branch Library
Casa Blanca Branch Library	Loma Linda Branch Library
Cathedral City Branch Library	Los Angeles Central Library
Central Library	Los Angeles County Law Library
Chino Branch Library	Lucerne Valley Branch Library
Chino Hills Branch Library	Marcy Branch Library
Claremont Library	Mentone Branch Library
Coachella Branch Library	Monrovia Public Library
College of the Desert Library	Monterey County Library
Corona Branch Library	Monterey Public Library
Covina Public Library	Montrose Public Library
Crafton Hills College Library	Moorpark Library
Crestline Branch Library	Moreno Valley Library
Dale E. Web Memorial Library	New Cuyama Branch Library
Davidson Library	Newhall Library
Desert Hot Springs Branch Library	Norco Branch Library
Duarte Library	Norman Feldheim Library
East Side Library	Ojai Public Library
East Valley Branch Library	
Escondido Public Library	
Fillmore Library	
Fontana Branch Library	
Frazier Branch Library	
Friends of the Orange Public Library	
Glen Avon Branch Library	
Glendale Central Library	
Glendora Public Library	

Government Agency Comment Letters

This section contains electronically scanned copies of letters we received from government officials and agencies during the official public comment period for the draft forest plan and DEIS. All letters are available for review at the Supervisor's Offices in Goleta, Arcadia, San Bernardino and San Diego, CA. The originals are in the planning record.

please forward to the CAT group...rp

----- Forwarded by Ron Pugh/R5/USDAFS on 06/04/2004 08:08 AM -----

----->
 | Kathleen Phelps |
 | 06/03/2004 04:30 |
 | PM |
 ----->

-----|

To: Ron Pugh/R5/USDAFS@FSNOTES, Kathleen G
 Good/R5/USDAFS@FSNOTES
 cc:
 Subject: Camp San Luis Obispo is opposed to motorize recreation on Cuesta
 grade

-----|

Input for the forest plan from Camp San Luis Obispo, CA National Guard

----- Forwarded by Kathleen Phelps/R5/USDAFS on 06/03/2004 04:29 PM -----

----->
 | "Kelly, David M |
 | CA" |
 | <David.Kelly@ca.ng|
 | b.army.mil> |
 | 05/25/2004 08:49 |
 | AM |
 ----->

-----|

To: Kathleen Phelps <kphelps@fs.fed.us>, "Clark, David L CA"
 <David.Clark@js.ca.ngb.army.mil>, "Wilde, Chris CA"
 <Chris.Wilde@ca.ngb.army.mil>, "Spencer, Ken CA" <Ken.Spencer@ca.ngb.army.mil>,
 "Acevedo, Mario V CA"
 <Mario.Acevedo@ca.ngb.army.mil>, "Johnson, Mark J MAJ NGCA"
 <Mark.Johnson@ca.ngb.army.mil>
 cc:
 Subject: Camp San Luis Obispo is opposed to motorize recreation on Cuesta
 grade

-----|

7/28/2004

Dear Kathleen,

I just learned that you were requesting community feed back on the subject of motorized recreation in the Cuesta Grade Area. Camp San Luis Obispo is opposed to any motorized recreation in that area for the following reasons:

1. Individual safety, there is a higher risk of accidents because of the increased speed and ability of motorized equipment we do not have the personnel to patrol our northern section for downed motor bikers.
2. Individual safety, Currently we are dealing with trespasser who access the installation from the U.S. Forest on motorcycles and ride into unsafe areas such as mines, and life fire ranges.
3. Destruction to environment, Of all of the trespassers the motorcycle riders cause the greatest damage to our watershed, and endanger plants because motorized bikes make it easy for them to ride off roads and trails
4. Security, the only incidents of cutting our fence line has been from motorcycle riders who wish to gain access to areas inside our installation. Trespassers on motorcycles can easily our run our security forces. Camp San Luis Obispo is home to three youth academies and one prison. We must actively protect the youth from their former gangs and intercept personnel who attempt to assist inmates.
5. Respect and safety to others, The trails and old mining roads are narrow in places which are well suited for mountain bikers and hikers. Motorcyclist can not respond fast enough on narrow trails to avoid hitting the slower moving hikers and cyclist with out injury. It is very difficult to share the trail because of limited space.

Camp San Luis Obispo fully support non-motorized recreation.

Major David Kelly
 Director of Plans Training Mobilization and Security

7/28/2004

08:38 FAX

WILLIAM M. THOMAS
2ND DISTRICT, CALIFORNIA

CHAIRMAN
COMMITTEE ON WAYS AND MEANS

2208 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0522
(202) 225-2915



Congress of the United States
House of Representatives
Washington, DC

August 9, 2004

Southern California Forest Plan Revisions
Los Padres National Forest
U.S.D.A. Forest Service Content Analysis Center
PO Box 22777
Salt Lake City, UT 84122

Dear Forest Service Planning Team:

As you update the Los Padres National Forest Land Management Plan, I urge you to seek a balance between historic uses of the Forest and efforts to manage the Forest.

It is important for the Forest Service to continue historic uses of the property and to recognize that users of public land favor more than one form of recreation. Hikers, horseback riders, mountain bikers, and off-road vehicle enthusiasts can co-exist to share the resources of the national forest. I would also encourage continued maintenance on road systems throughout our forest so people of all ages can enjoy nature's beauty.

Forest management should allow sportsmen to enjoy varied pursuits of fishing, hunting or target practicing, and campgrounds should remain open so that visitors are able to enjoy the outdoors at all hours. In addition, it is important to honor current grazing permits in the Forest. To protect the neighbors of the Forest from potential fires, I encourage proactive control of hazardous fuels, and thinning of dead underbrush.

As you deliberate on the most effective management plan for the Forest, I urge you to take these important issues into consideration.

Best regards,

WILLIAM M. THOMAS
Member of Congress

11553 002
DISTRICT OFFICES:
4100 EMPHRE DRIVE, SUITE 150
BAKERSFIELD, CA 93309
(661) 327-3611
5805 CARISTRANO AVENUE, SUITE C
ATASCADERO, CA 93422
(805) 461-1034—NORTH COUNTY
(805) 593-0390—SOUTH COUNTY
INTERNET:
www.billthomas.house.gov

HOWARD L. BERMAN
28TH DISTRICT, CALIFORNIA

COMMITTEE ON
THE JUDICIARY
RANKING MEMBER, SUBCOMMITTEE ON
COURTS, THE INTERNET
AND INTELLECTUAL PROPERTY
SUBCOMMITTEE ON
IMMIGRATION AND CLAIMS

COMMITTEE ON
INTERNATIONAL RELATIONS
SUBCOMMITTEE ON
THE MIDDLE EAST AND CENTRAL ASIA



Congress of the United States
House of Representatives

July 13, 2004

Jodi Cook
The Angeles National Forest
701 N. Santa Anita Ave
Arcadia, CA 91006

Dear Forest Supervisors:

I am writing to forward a copy of a letter that I received from the Vice President of the San Fernando Valley Audobon Society, Seth Shteir, and to echo many of the concerns that he raised. Southern California's Mediterranean type ecosystem is one of the top ten "hot spots" for biodiversity, according to Conservation International. It exists on less than 3% of the earth's land surface, and is more threatened than the rainforest. It is critically important that whichever Forest Service Plan is adopted reflect the biological significance of the region.

I am concerned about whether the proposed mitigations for alternative 4 are sufficient and whether the Forest Service will have enough personnel to safeguard California's flora and fauna and undertake the increased species monitoring that will be necessary to implement this alternative. Please evaluate the alternatives very carefully to insure that the plan ultimately adopted not only provides sustainable recreational opportunities, but also protects our region's unique natural resources.

Thank you for your time and consideration.

Sincerely,

HOWARD L. BERMAN
Member of Congress

CC: Emma Carroll, Congressional Liaison
Forest Service

WASHINGTON OFFICE
Rayburn House Office Building
Washington, DC 20515-0528
202-225-4695

DISTRICT OFFICE
14546 Hamlin Street, Suite 202
Van Nuys, CA 91411-4128
818-994-7200

www.house.gov/berman

AEEC RECEIVED
AUG 09 2004

Blumenfield, Bob

71668

From: SShteir@aol.com
Sent: Friday, July 09, 2004 3:13 PM
To: socalforests@fs.fed.us
Subject: Southern California National Forests Public Comments

July 10, 2004

Dear Forest Supervisors,

The San Fernando Valley Audubon Society, a 1600 member environmental organization, wishes to express its opposition to preferred alternative 4. We are very concerned that under this alternative conservation of species and passive recreation opportunities take a back seat to motorized recreation. Additionally, it is our view that the proposed mitigations are insufficient. We find alternative 6 preferable to alternative 4, as it preserves habitat and allows for ample passive recreation opportunities.

In 2002 Conservation International stated that the Mediterranean ecosystem of Southern California was a "hot spot" for biodiversity. It is our contention that any forest service plan needs to reflect the biological significance of our region. Alternative 4 does not do enough to acknowledge the ecological significance of Southern California. Under alternative 4 acreage open to back country motorized increases by 70,000 acres while back country non motorized acreage decreases by the same amount. Off road vehicles fragment habitat, cause stress on wildlife, create noise pollution, introduce exotic plant species and increase the risk of fire hazard. The table "Results of Threat Assessment For Animal Species Of Conservation Concern in the Plan Area" confirms that alternative #4 will degrade habitat, as 80 species are listed as effected under this plan. The same table lists 5 species as effected under alternative 6.

The proposed mitigations for alternative 4 are insufficient. More intensive management will not offset development projects and unsustainable forms of recreation. The San Fernando Valley Audubon Society contends that the best way of preserving the natural character of the forest is from sustainable recreation, fire protection on the urban wildland interface (as opposed to prescribed backcountry thinning, expanding wilderness areas and curtailing development projects. The increase in species monitoring and forest service presence will be insufficient to safeguard California's flora and fauna. Additionally, these mitigations will doubtless require increased forest service personnel. This appears a dubious proposition at best, as an article in the Pasadena Star News in 2003 reported that between 1992-2002 the budget for the Angeles National Forest remained essentially static (due to inflationary costs).

The people of Southern California need a forest service plan that protects the region's unique natural resources and provides for sustainable types of recreation. By increasing back country non motorized areas to over 1,000,000 acres and by recommending over 500,000 acres for wilderness status, alternative # 6 will safeguard California's natural heritage while providing expansive passive recreation opportunities. Please support alternative #6 for the Angeles, San Bernadino and Los Padres National Forests.

Sincerely,

Seth Shteir
Vice President
San Fernando Valley Audubon
14355 Huston St. #225
Sherman Oaks, CA 91423
818-995-6429

8/2/2004



12644

Congress of the United States
House of Representatives
Washington, DC 20515

August 9, 2004

Southern California Forest Plan Revisions
United States Department of Agriculture
Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, Utah 84122

Subject: Land Management Plan Update—Cleveland National Forest

Dear Forest Plan Manager:

As a result of the recent execution of a "Letter of Understanding" (LOU) between the United States Department of Agriculture—United States Forest Service (USFS) and the Federal Energy Regulatory Commission (FERC), two Federal agencies have agreed to cooperate in the environmental review and entitlement process for two critical regional energy projects located in Southern California. This agreement is consistent with President Bush's Executive Order 13212 (Actions to Expedite Energy-Related Projects) which was executed in May 2001, requiring that Federal agencies stream line the permitting and Federal Licensing process for projects of this nature designed to increase the production, transmission, or conservation of energy, as well as eliminate duplication wherever possible.

The two projects that will benefit procedurally from this cooperative agreement are the Elsinore Valley Municipal Water District's (EVMWD) 500-megawatt (or greater) Lake Elsinore Advanced Pumped Storage (LEAPS) project and the EVMWD's Talega-Escondido/Valley-Serrano 500-Kilovolt Interconnect (TE/VS Interconnect) project.

The involvement of the USFS in this agreement is predicated by the location of these proposed projects within the Cleveland National Forest (CNF) – Trabuco Ranger District. Under the provisions of the National Forest System Land and Resource Management Planning Rule (36 CFR 219), the USFS is directed to update its forest plans every 10 to 15 years. As a result of this regulation, the USFS has released a preliminary plan for the purpose of updating and replacing the current 1986 plan for the CNF.

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Since forest plans guide decision makers activities well into the future, these plans need to offer management direction for a broad range of issues, including habitat preservation, recreation, and multiple use opportunities on National Forest System (NFS) lands. Among those multiple use opportunities is the managed utilization of renewable resources, such as hydropower, to meet the region's growing energy demands and sustain economic development.

Since forest plans provide overall policy direction, they do not directly authorize project-level actions within those administrative units. They do, however, create the framework under which those later actions are considered. Those later actions are, in most instances, subject to the findings of detailed environmental studies conducted for the purpose of identifying the environmental implications of those actions. Prematurely stopping or unreasonably restricting otherwise allowable multiple use opportunities, prior to the completion of those project-level studies, particularly in light of the existence of the agreement between the USFS and the FERC to jointly develop an environmental document for the EVMWD's two energy projects, appears presumptive and inconsistent with established public policy.

Presently, the USFS has the authority to permit the use of its lands for electric power generation and transmission purposes. Also, the current forest management plan specifically allows for these lands to be used for both electrical and hydro uses as well as other energy sources. However, the recently proposed plan fails to present an appropriate balance between the preservation of the natural environment and the utilization of renewable resources to benefit the human environment. The proposed draft appears to focus more on the environment and less on the use of these lands for renewable energy projects, which is a dramatic reversal from previous plans.

The Forest Service's national energy management policies include objectives to provide leadership and support for environmentally acceptable and scientifically sound development, production, and use of energy resources from NFS lands (Forest Service Manual 2170.2). In addition, it is the policy of the USFS to encourage hydroelectric production where it is a compatible with National Forest purposes and to consider energy potential a National Forest resource (Forest Service Manual 2770.2 and 2770.3). The proposed forest plan fails to maintain the current framework that would allow projects such as LEAPS and the TE/VS Interconnect. As far as we are concerned this proposed change is inconsistent with established policies.

The USFS has stated that the new draft forest management plan is still subject to review. Therefore we would encourage the USFS to reexamine the proposed draft and make sure that the spirit of the new plan continues to be consistent with the existing plan that has been in effect since 1986. As you recall, the 1986 plan allows forest lands to be used for renewable energy projects. It would be inappropriate for the USFS to change 18 years of precedent for supporting renewable energy by randomly eliminating renewable options that have been proven successful in the past.

The United States needs to continue to move closer to energy self-sufficiency. Projects such as LEAPS, a pump storage hydropower facility, will help our country meet this goal. As a result, we would like to recommend the following changes to the draft forest management plan, which are in keeping with the current management plan...

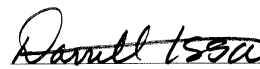
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1. Revise the preliminary forest plan for the CNF to explicitly identify hydropower, including pumped storage, as a renewable energy resource and insert, where appropriate, reference to hydropower generation and storage throughout the forest plan and its accompanying environmental documentation. There is no basis for the removal of hydro from the current forest management plan.
2. Defer identification of new wilderness and road less areas pending the completion of the environmental documentation now being prepared by the USFS and the FERC if such designation could impede the development of proposed energy facilities located within the CNF.
3. Provide the transmission alignment associated with the LEAPS and TE/VS Interconnect projects the same status as that now granted to the Western Regional Corridor Planning Partnership relative to forest planning considerations.
4. Allow for the opportunity to establishment new utility corridors and rights-of-way when the need arises.

While we recognize the important role that USFS lands play with regards to environmental preservation and conservation, these lands have also played a role in providing renewable resources to fuel our nation's economy. Since 1986, the CNF forest management plan has stated that hydro power and other renewable sources of energy should be considered as the proper use of these lands. As far as we are concerned, there is no precedent to change this current thinking. Therefore, the new draft forest management plan should not change its consideration of hydropower as a responsible use of these cherished lands, and we recommend that the above changes be included in the proposed forest management plan.

Thank you for your consideration. We look forward to your quick response.

Sincerely,


Darrell Issa, M.C.


Ken Calvert, M.C.


Mary Bono, M.C.


Duncan Hunter, M.C.

T2644

Cc: Hon. Mark Rey
Undersecretary for Forest Management
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T3173
COMMITTEES:
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August 11, 2004

The Honorable Dale Bosworth
Chief, Forest Service
U.S. Department of Agriculture
P.O. Box 96090
Washington, D.C. 20090

Dear Chief Bosworth:

I write to express my concerns regarding the proposed revision of the land management plans for the four Southern California forests—Los Padres, Angeles, San Bernardino, and Cleveland. While the draft preferred alternatives identified by the Forest Service have some positive elements, there are a number of steps the agency can take to strengthen the plans to protect and restore these forests.

These four national forests of southern and coastal central California are among the most heavily visited in the country. They provide drinking water, recreation, and the solace of open space for millions of people every year. The continued urbanization of the region and poorly managed motorized recreational use have harmed these forests and the species that depend on them. Strong protection for these forests is required to balance the continued development of the region with the long-term responsibility to provide unspoiled natural places for residents, visitors, and future generations to enjoy.

I believe the Forest Service must be given reasonable flexibility to reduce fire risk in the wildland-urban interface, in order to complement the creation of defensible spaces around homes. Sound science, including that of the Forest Service, demonstrates that it is this work near communities that will best protect lives and property. Hazardous fuels reduction projects that will directly protect a community at-risk from wildfire should go forward under the revised land management plans. These projects should not depend on establishment of a permanent road system, given the evidence that a poorly maintained network of roads that exists on the forests increases opportunities for human-caused fires and allows access that results in environmental degradation.

Poorly managed off-road vehicle use has been identified by the Forest Service as a key contributor to the decline of our national forests. Yet, the preferred alternatives would increase the amount of forest open to motorized uses, widely dispersed off-road vehicle use, and incorporate illegal trails into the Forest Service system. The final revised land management plans should provide a better balance between the range of protections and recreational opportunities in the forests than what is currently proposed. I am concerned about the numerous roadless areas that would be designated for motorized use in the preferred alternatives. Introducing motorized recreation to these areas is unwise and will put future wilderness designation at risk.

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It is disappointing and unacceptable that the draft plans recommend wilderness designation for only a fraction of the eligible areas. Wilderness provides valuable recreational opportunities and the strongest possible protection for natural resources in the forests, including water.

The final plans should move more aggressively to rehabilitate roads that are below their maintenance standards and contribute to stream sedimentation, accelerated erosion, and habitat fragmentation. When rehabilitation of these roads is not feasible or appropriate, they should be closed. The agency should work closely with stakeholders to identify and prioritize these roads.

The final management plans should include measurable goals for delivering facilities, programs and services that better address the needs of the region's underserved communities. Diversifying employment and volunteer opportunities should be another important goal of the plans, along with ensuring that forest use fees do not unfairly limit access by working families.

Facing a future of increased demand and limited financial resources, the Forest Service should adopt management plans that possess clear and measurable goals to provide sustainable, low-impact recreation; protect water resources; expand opportunities, outreach, and education for underserved communities; and restore the health of the forests. Our national forests are a source of great regional pride, and Southern Californians deserve forest plans that reflect and fulfill that pride.

Sincerely,


Barbara Boxer
United States Senator



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
1111 Jackson Street, Suite 520
Oakland, CA 94607

T3185

August 11, 2004

ER 04/378

Southern California Forest Plan Revisions
USDA Forest Service Content Analysis Center
PO Box 22777
Salt Lake City, UT 84122

Subject: Review of Draft Environmental Impact Statement for Revised Land Management Plans for the Southern California National Forests, Angeles National Forest, Cleveland National Forest, Los Padres National Forest, and the San Bernardino National Forest, CA

The U.S. Department of the Interior has received and reviewed the subject document and has the following comments to offer.

The Draft Environmental Impact Statement (DEIS) includes analyses of five alternatives in addition to the no action alternative. The goal of the proposed action is to develop plans that will provide strategic direction guiding all natural resource management activities for each of the four southern California National Forests (Angeles, Cleveland, Los Padres, and San Bernardino).

The proposed action entails development of multiple-use desired conditions and objectives, land use zoning, and design criteria standards. The Angeles, Los Padres, and San Bernardino National Forests selected Alternative 4 as the preferred alternative, which emphasizes recreation, with intensive levels of management controls and mitigation of the effects on biological diversity and ecological integrity.

Cleveland National Forest selected Alternative 2 as the preferred alternative, which focuses on maintaining biological diversity and ecological integrity while accommodating a gradual increase in recreational activities.

General Comments

The Department of the Interior (Department) commends the U.S. Forest Service (USFS) for development of standards designed to maintain biodiversity focusing on protection of riparian and aquatic ecosystems. In addition, we appreciate requests from your agency to participate throughout the revision process and the opportunity to provide comments early in the process.

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We are concerned, however, regarding selection of Alternative 4 as the preferred alternative by the Angeles, Los Padres, and San Bernardino National forests because: 1) we believe Alternative 4 fails to provide a commitment to protect a number of areas of biological importance through land use zoning; and 2) this alternative is missing elements in the analysis. We are also concerned regarding the selection of Alternative 2 by the Cleveland National Forest because it lacks commitment to protect certain areas of biological importance through land use zoning.

For Alternatives 2 and 4, we believe the overall focus is on minimizing impacts rather than taking more proactive approach towards habitat and species restoration and recovery described by Alternative 3.

While preferred alternatives for the four southern California National Forests improve commitment to protect a number of areas of biological importance through land use zoning, a number of important areas have not been included for protection. In addition to new protective land use zoning displayed in Alternative 4 and standards developed, we recommend additional protective land use zoning in the form of critical biological zones, wilderness areas, research natural areas, or back country non-motorized zones for the following areas for the final EIS (FEIS):

Comments related to Appendix B, Process for Evaluating Viability/Ecosystem Sustainability: 36 CFR 219.19 Viable Populations, and Departmental Regulation 9500-4 Managing Habitats for Native Species

Angeles National Forest

1. Use a special designation for the portion of Soledad Canyon that occurs on the Angeles National Forest, such as the critical biological zone displayed in Alternative 3. This area includes proposed critical habitat for the federally endangered arroyo toad (*Bufo californicus*) and occupied habitat for the federally endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*).
2. Use a special designation for Upper Big Tujunga, such as a critical biological zone, which includes designated critical habitat for the federally threatened California red-legged frog (*Rana aurora draytonii*) and occupied habitat for an isolated population of the arroyo toad. We recommend areas north of Big Tujunga Canyon, south of Upper Big Tujunga Canyon, and areas in the upper watershed of Big Tujunga Canyon that are currently zoned under Alternative 1 as back country non-motorized be maintained as such.
3. Use a protective land use zone designation for the area from west of Mt. Wilson to east of Monrovia Peak for protection of the California spotted owl (*Strix occidentalis occidentalis*).
4. Maintain the area around Mt. Baldy in back country non-motorized land use zone for Nelson's bighorn sheep (*Ovis canadensis nelsoni*) rather than zoning it backcountry motorized as displayed in Alternative 4.

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5. Use protective land use zone designations around the Little Rock Creek critical biological zone for the arroyo toad as displayed in Alternative 3.

Cleveland National Forest

1. Use a protective land use zone designation, such as back country non-motorized, for the Bear Valley area for the federally endangered San Bernardino bluegrass (*Poa atropurpurea*).
2. Use a protective land use zone designation, such as backcountry non-motorized, for the Sierra Peak/Cole Canyon as displayed in Alternative 3 for protection of the habitat corridor between the Santa Ana Mountains and the Chino Hills.
3. Place a critical biological zone in the Laguna Mountains for the federally endangered Laguna Mountains skipper (*Pyrus ruralis lagunae*) (excluding existing development at the El Prado/Laguna Campground).

Los Padres National Forest

1. Use a special designation, such as a critical biological zone, for portions of Santa Ynez River, Sespe Creek, and Piru Creek. These areas are proposed as critical biological zones in Alternative 3 and are very important to one or more listed species (least Bell's vireo (*Vireo bellii pusillus*), arroyo toad, California red-legged frog). At a minimum, designations of back country non-motorized would offer greater protection than that proposed under the preferred alternative.
2. Provide protection for the Lion Canyon area (Cuyama/Hwy 166 Place) where federally endangered California condors (*Gymnogyps californianus*) have previously nested. At a minimum, a designation of back country non-motorized would offer greater protection than that proposed under the preferred alternative.
3. Areas within critical habitat designated (or proposed) for the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and arroyo toad, should be changed to back country non-motorized, if not designated as a critical biological zone or wilderness (excluding official road corridors) as in Alternative 3. Currently, most of these areas are within back country motorized in Alternative 4.

San Bernardino National Forest

1. We strongly recommend a critical biological zone designation for Bautista Canyon. In addition, protective land use zone designations in surrounding areas would be appropriate as displayed in Alternative 6. Bautista Canyon has one of the most concentrated areas of habitat for federally endangered species on the four southern California National Forests. Bautista Canyon contains occupied habitat for the federally endangered slender-horned spineflower (*Dodecahema leptoceras*), arroyo toad, southwestern willow flycatcher (*Empidonax traillii extimus*), and San Bernardino kangaroo rat (*Dipodomys merriami parvus*). Bautista Canyon also includes designated critical habitat for the San Bernardino

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kangaroo rat and proposed critical habitat for the arroyo toad. In addition, the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*) has recently been observed in and adjacent to Bautista Canyon.

2. We recommend using the most protective critical biological zone variation as displayed in Alternative 3 for the Gold Mountain area for the protection of the federally threatened Bear Valley sandwort (*Arenaria ursina*), ash-grey paintbrush (*Castilleja cinerea*), southern mountain buckwheat (*Eriogonum kennedyi* var. *austrorontanum*), and bald eagle (*Haliaeetus leucocephalus*).
3. Maintain and expand the back country non-motorized zones around the City Creek critical biological zone as displayed in Alternative 3 for the protection of habitat for the federally endangered mountain yellow-legged frog (*Rana muscosa*).
4. Maintain the area around the Deep Creek critical biological zone in a protective land use zone designation for the arroyo toad.
5. Use the most protective critical biological zone variation for the mountain yellow-legged frog for the Dark Canyon-Fuller Mill Creek area as displayed in Alternative 6. This critical biological zone should be expanded to include occurrences of mountain yellow-legged frogs more recently discovered.
6. We recommend a special designation for the Arrastre/Union Flats area, such as a critical biological zone or Research Natural Area, for the protection of Bear Valley sandwort, ash-gray paintbrush, and southern mountain buckwheat.
7. We support the proposed Wildhorse Research Natural Area, which supports the federally endangered California taraxacum (*Taraxacum californicum*) and San Bernardino bluegrass and the federally threatened Bear Valley sandwort and ash-grey paintbrush. We also support the proposed Blackhawk Research Natural Area for protection of the federally endangered Cushenbury milk-vetch (*Astragalus albens*), Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*) and Cushenbury oxytheca (*Oxytheca parishii* var. *goodmaniana*) and the federally threatened Parish's daisy (*Erigeron parishii*).
8. We recommend the Sugarloaf Meadow critical biological zone for the unarmored threespine stickleback, the Bertha Ridge critical biological zone for the federally endangered San Bernardino Mountains bladderpod (*Lesquerella kingii* ssp. *bernardina*) and Cushenbury oxytheca, and the South Baldwin Lake critical biological zone for the federally endangered unarmored threespine stickleback, slender-petaled thelypodium (*Thelypodium stenopetalum*), and pedate checkermallow (*Sidalcea pedata*).
9. We recommend the critical biological zone for Coxey Meadow which supports the only known location of the vernal blue butterfly (*Euphilotes baueri* [battoides] *vernalis*).
10. Some of the areas within Front Country and Lytle Creek places become backcountry motorized under Alternative 4. We strongly recommend that these areas within the range of Nelson's bighorn sheep be maintained as backcountry non-motorized.

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In addition to the lack of protective land use zones for areas described above under Alternative 4, the DEIS lacks important elements in the comparison of the alternatives in the biological diversity analysis. The biological diversity analysis for Alternative 4 of the DEIS does not address potential effects associated with increased fire occurrence due to increased recreational access, activities, and carrying capacities.

This effect is mentioned in the section on fire management (Page 3-307) and displayed in Table 111, but not addressed in the biological diversity section. In addition, the biological diversity analysis for Alternative 4 needs to consider potential increase in human presence and recreational usage associated with the development of additional recreational opportunities.

The analysis in the DEIS assumes that whether recreational opportunities/facilities are enhanced and expanded or not, recreation rates will continue increasing at the same rate. Rather, increased opportunities/facilities (such as parking areas) could increase recreation rates above baseline growth and expand the area of impact. The fire management section includes this effect in its analysis, but the biological diversity effects analysis does not.

We suggest the potential for this effect to occur and the potential for subsequent impacts on fish, wildlife and plants be discussed and analyzed in the FEIS. The potential effects of increased fire occurrence and recreational impacts should be addressed when discussing Alternative 4 and comparing it against other alternatives for the FEIS.

Finally, we are concerned about the overall emphasis on minimizing impacts under Alternative 2 and 4. We recommend taking the more proactive approach towards habitat and species restoration and recovery in Alternative 2 and 4 for the FEIS as that described by Alternative 3.

According to the DEIS, species viability analysis results displayed in Appendix B and on Tables 198, 199, and 200, Alternative 4 leaves 33 plant and invertebrate species that are at risk from USFS activities or land uses isolated relative to historic distributions (at viability condition C or worse), while Alternative 2 results in 18 of these species in such a situation. Further, Alternative 4 and Alternative 2 each leave populations of 42 vertebrate animals-at-risk from USFS activities or land uses in isolated populations (at viability condition C or worse).

Given the relatively high numbers of species of concern in southern California, their dependence upon National Forest lands, the results of the viability analysis, and the high potential for stochastic events, such as wildfires and post-fire flooding, to harm isolated populations of species, only maintaining species of concern at their present levels is likely to result in at least localized extirpation events with little to no opportunity for natural recovery. Thus, to adequately maintain species-at-risk in the long run, we suggest using a much higher level of proactive habitat restoration and species recovery in Alternatives 2 and 4 for the FEIS.

Overall, given the importance of the southern California National Forests to biodiversity in the region and the high number of species with viability concerns as documented in the DEIS, the Department recommends more emphasis on priorities and direction described under Alternative 3 of the DEIS (Page2-7) for habitat improvement and surveys, watersheds, forest habitat linkages, and special area designations.

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In combination with more emphasis on these priorities and direction described in Alternative 3, we specifically recommend including the land use zone designations described above for the FEIS, in addition to the protective land use zone designations and standards already present in the preferred alternatives.

Specific Comments

Angeles National Forest Strategy

Page 16: The Angeles National Forest strategy indicates that managers expect to implement adaptive management measures on approximately 75% of concentrated use areas and developed sites that have threatened, endangered, proposed, candidate and sensitive (TEPCS) species conflicts. This seems to contradict the draft standard developed in which measures will be implemented to avoid or minimize the impacts of recreation at sites that have TEPCS species conflicts. The standard does not set a limit by percentage on sites where it will be implemented. Please set a limit by percentage on sites where it will be implemented in the FEIS.

Page 20: Please add a section regarding the importance of reducing the amount and extent of lead shots/slugs used within the range of the California condor under Education/Information/Interpretation Strategy for the FEIS.

Page 37 and 52: California condors have been reported on the Angeles National Forest near Front Country and/or Soledad Front Country places. Management for this species should be incorporated into the Program Emphasis for the FEIS.

Page 40: Recovery actions to benefit the mountain yellow-legged frog should be added to the Program Emphasis for the Angeles High Country in the FEIS.

Page 43: Management for the protection of the arroyo toad and for non-native species control should be added to the Program Emphasis for the Angeles Uplands West Place for the FEIS. Proposed critical habitat for the arroyo toad occurs within this Place.

Page 45: Please add management for the recovery of the arroyo toad to the Program Emphasis for the Big Tujunga Place for the FEIS. Proposed critical habitat for the arroyo toad occurs within this Place.

Page 50: Critical habitat for the federally threatened Santa Ana sucker (*Catostomus santaanae*) was designated and proposed on February 26, 2004, and includes areas within the San Gabriel Canyon Place. Please add this information for the FEIS.

Page 53: Proposed critical habitat for the arroyo toad occurs within the Soledad Front Country Place. Management for the benefit of the arroyo toad and unarmored threespine stickleback should be added to the Program Emphasis for the FEIS.

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Cleveland National Forest Strategy

Please add the Laguna Mountains skipper under sections *Control of invasive of nonnative species, Value of vegetation management to species at risk, Species with limited distribution, Coordination with other agencies, Prevent the spread of invasive non-native species,* and *Fire prevention and suppression* for the FEIS.

Page 23: The inclusion of vernal pool monitoring appears to be a mistake due to the low potential for vernal pool habitat on the forest.

Page 51: Please correct this information in the FEIS: Arroyo toad critical habitat is proposed, not designated. The proposed critical habitat occurs in San Juan Creek in the San Mateo Place, but off the forest within San Mateo Creek.

Page 58: Suggested addendum to FEIS for CNF S3: Grazing activity will be modified as necessary (timing, intensity, duration, etc.) to ensure that this activity does not hinder successful reproduction within extant populations of San Bernardino bluegrass. In addition, we suggest that CNF S1 be revised for the FEIS to avoid all activities within Laguna Mountains skipper key and occupied habitat, unless the Department, through the Service, determines that it is neutral or beneficial to the species.

We recommend adding the following standard for the FEIS: "Vegetation surveys will be conducted to document distribution and abundance of Laguna Mountains skipper host plant, Cleveland's horkelia (*Horkelia clevelandii*; horkelia) in the Laguna Mountains and horkelia and potentilla (*Potentilla glandulosa*) in the Palomar Mountains, within proposed project areas. Any new host plant occurrences should be mapped as key habitat."

Los Padres National Forest Strategy

Page 22: Under the Education/Information/Interpretation Strategy, please add a section regarding the importance of reducing amount and extent of lead shots/slugs used within the range of the California condor for the FEIS.

San Bernardino National Forest Strategy

Page 24: The inclusion of vernal pool monitoring appears to be a mistake due to low potential for vernal pool habitat on the Forest.

Page 25: Under Habitat Acquisition we recommend adding meadow, pebble plains, and carbonate plant species for the FEIS.

Page 37: Under Minerals Management, reference to suction dredging on the San Gabriel River is in error.

Page 40: Under Anza Place, arroyo toad critical habitat is proposed, not designated. In addition, the Quino checkerspot butterfly has been found along Bautista Canyon.

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Page 54: A pair of bald eagles successfully nested within the Garner Valley Place in 2003, which is a rare event on the San Bernardino National Forest. Continued protection of the nest site should be added to the Program Emphasis for the FEIS. Also, please add surveys for the Quino checkerspot butterfly to the Program Emphasis for the FEIS.

Page 56: Small and isolated occurrences of the mountain yellow-legged frog occur within the Idyllwild Place. Recovery actions for this species should be added to the Program Emphasis for the FEIS.

Page 62: Please add the Santa Ana sucker to the list of species that should have habitat protected and enhanced under the Program Emphasis for the San Bernardino Front Country Place for the FEIS. Santa Ana sucker critical habitat has been designated and proposed within this Place.

Page 67: Working with the Coachella Valley Association of Governments to ensure compatible management and protection of the federally endangered Peninsular bighorn sheep (*Ovis canadensis*) should be added to the Program Emphasis in the FEIS.

Design Criteria for the Southern California National Forests

We suggest that key habitat should be referenced or defined in this section for the FEIS. Key habitat for the federally endangered Laguna Mountains skipper should be revised and expanded to include the most updated distribution of Cleveland's horkelia (*Horkelia clevelandii*; horkelia) in the Laguna Mountains and horkelia and potentilla (*Potentilla glandulosa*) in the Palomar Mountains.

Page 5, S110: Should include "burning" in addition to "removal, crushing, burying, or mowing of host plants." for the FEIS.

Page 6, S20: We believe the use of the word "discouraging" is unclear, because we are not sure whether dispersed camping will be allowed within 100 feet of sensitive resources and habitats or not. We recommend clarifying/strengthening this standard for the FEIS.

Page 9, S53: We recommend adding the restriction that casual rock collecting will not occur within southern rubber boa (*Charina bottae umbratica*) habitat. Also, this standard should be cross-referenced with standard 108 for the FEIS.

Appendix C: Habitat suitability criteria for some other species should be incorporated into the plans, when not defined in existing protocols. We can work with you, through the Service, in development of habitat suitability criteria and in determining which species are important to include in the FEIS.

Appendix E-4, Note: While the Five-Step Screening Process makes a strong commitment to protecting riparian, aquatic, and meadow habitats, this note seems to indicate the screening process will only be followed as an interdisciplinary team deems appropriate. Thus, this note to the screening process seems to compromise the value of the Five-Step Screening Process as a Forest Plan standard or as a commitment to protect riparian and meadow ecosystems.

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Based on our interpretation of the screening process, activities can already occur within Riparian Conservation Areas as long as they meet conditions of the screening process, so the rationale for addition of the note at the end is unclear. We recommend making a clear commitment to protecting these important areas by removing or clarifying this addition to the screening process.

Appendix G: Recommendations are sometimes made for raptors without specific reference to condors. Please address and make clear all guidelines that apply to areas occupied by the California condor in the FEIS. Additionally, one of the measures states, "Keep all trash, garbage or excess scrap materials removed from the communication site..." Please give examples of micro trash in this section so that little pieces of garbage are not overlooked (such as screws, washers, nails, small pieces of plastic, bottle caps, pieces of cloth and anything small that is shiny or colorful).

Appendix H: Please change the Laguna Mountains skipper species account for the FEIS: Removing grazing would eliminate the documented detrimental impacts of this activity to skipper host plants and eggs/larvae. Removing grazing, however, could increase grass density and stand height and this increased vegetation cover around horkelia might render the plants unsuitable for ovipositioning by the Laguna Mountains skipper, though this has never been documented.

Add the following to the list of conservation practices that should also be considered in the Laguna Mountains skipper species account: Restore areas of potentially suitable habitat for Laguna Mountains skipper with the goal of creating suitable breeding and nectaring habitat. We suggest that restoration in the FEIS focus on areas adjacent to or within the vicinity of occupied habitat that are dominated by non-native vegetation and that lack horkelia and potentilla.

We do not agree with the statement in the species account for the Smith's blue butterfly (*Euphilotes enoptes smithi*) "...that only a small fraction of occupied Smith's blue butterfly habitat exists on National Forest System lands. Consequently, these public lands can offer only a minimal contribution to the recovery of this subspecies." The species account states that "Smith's blue butterfly is now known to occur along the coastal portions of Monterey, Santa Cruz, and San Mateo Counties."

However, Arnold (2002) stated that records from San Mateo County require additional material to confirm their identities, and that records from Santa Cruz County are probably misidentified. Arnold (2002) mapped Smith's blue butterfly's known range as an approximately 80-linear-mile strip along the coast of central California (in Monterey and northern San Luis Obispo Counties) with approximately 45 of those miles within the boundaries of the Los Padres National Forest.

¹ Arnold, R.A. 2002. Survey protocol for presence-absence surveys of the endangered Smith's blue butterfly in the Los Padres National Forest in Monterey and northern San Luis Obispo Counties, California. Prepared for the U.S. Forest Service. Entomological Consulting Services, Inc., Pleasant Hill, California. 30 pp. and figures.

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Draft Environmental Impact Statement for Revised Land Management Plans

Page 3-80, paragraph 4: The discussion of impacts to species-at-risk under Alternative 6, due to dispersed recreation seems overly negative. Under the direction of Alternative 6, there would likely not be many or any narrowly restricted species that only occur within recreation sites. Intensity of effects could increase in smaller areas, but with larger areas open for species recovery the magnitude of potential effect on the whole population of a given species due to recreation should decrease. Further, it should be noted in the FEIS that other factors, such as available parking areas or camping sites, will act to naturally limit recreation impacts and the nature of the recreation usage is likely to change to some degree (i.e., from vehicle access activities to more backcountry activities).

Page 3-87, Effects of Fire Management: This analysis does not address potential for increased wildfire starts and associated impacts to species-at-risk due to increased public access and recreational activities/opportunities, which occur under Alternatives 4 and 5. However, the section on Vegetation Management mentions this potential effect on Page 3-307 and displays it in Table 111. Please correct this for the FEIS.

Page 3-99, paragraph 1: It is not clear why Alternative 4 is placed above Alternative 2 as far as maintaining biodiversity in the concluding paragraph of the Direct and Indirect Effects analysis and in Table 202. In other analyses, it was indicated that Alternative 2 would accomplish more resource program work that would be beneficial to species-at-risk (Page 3-77), provides more emphasis on non-native species removal (Page 3-79), has less risk of introducing and spreading non-native plants (Page 3-120), provides for more habitat acquisitions (Page 3-79), and reduces impacts due to road crossings (Page 3-83), Alternative 4 would contribute more to adverse cumulative effects to plant species than Alternative 2 (Page 3-102).

Further, the Department believes that Alternative 2 focuses non-native species removal in threatened and endangered species habitat while Alternative 4 focuses non-native species removal in recreation sites (Page 3-112).

Finally, according to the viability analysis presented in Appendix B, more species-at-risk populations will be isolated due to Forest activities under Alternative 4 than under Alternative 2.

Please clarify how both recreational opportunities and conservation efforts would increase under Alternative 4 when compared to Alternative 2 given an equivalent budget and equivalent implementation of design criteria for the comparison in the FEIS.

Page 3-114, Effects of the Alternatives: The acreage listed as being in critical biological zones under Alternative 4 (11,629 acres) does not match acreage presented for Alternative 4 in Table 333 (9,794 acres). Please correct this in the FEIS.

Table-7, Table-116: We disagree with the placement of the unarmored threespine stickleback (Shay Creek) in the category of Threatened and Endangered Animals with No Substantial Threats to Persistence or Distribution from USFS Activities. The San Bernardino National Forest currently permits water withdrawals that adversely affect the occurrence of unarmored threespine stickleback at Shay Pond as documented in the biological opinion issued on June 5, 2002.

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We also disagree with the placement of the Smith's blue butterfly (SBB) in the category of Threatened and Endangered Animals with No Substantial Threats to Persistence or Distribution from USFS Activities. We recommend that SBB be treated as a Species at Risk.

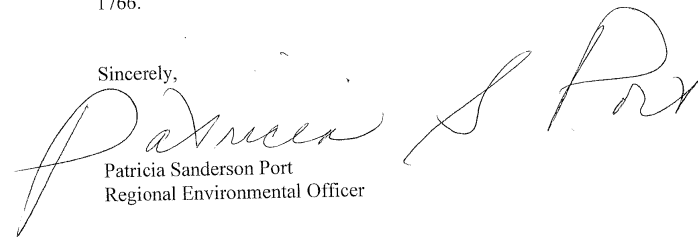
We believe it fits Threat Category 5 better than 4. Table 116 in the DEIS for SBB states, "Ongoing USFS activities have little potential to affect the host plants for this butterfly or, as a result, larvae or adults themselves." We believe this understates the extent to which USFS permitted activities affect SBB and its host plants.

As stated in the species account for SBB, "In addition to invasive nonnative plants, wildfire and over-grazing in limited areas pose the greatest threats to the butterfly on National Forest System lands. Site-specific impacts also occur around some developed recreation sites and along portions of hiking trails and road rights-of-way (U.S. Fish and Wildlife Service 2000)."

The Department, through the Service, is currently in formal consultation with the Los Padres National Forest on effects of livestock grazing and road maintenance and use on SBB, which are expected to cause direct mortality of SBB and removal of host plants.

Thank you for the opportunity to review this DEIS. If there are any questions pertaining to these comments, please contact Jesse Bennett or Erin Fernandez of the Carlsbad Fish and Wildlife Office at (760) 431-9440 or Creed Clayton of the Ventura Fish and Wildlife Office at (760) 644-1766.

Sincerely,



Patricia Sanderson Port
Regional Environmental Officer

cc: Director, OEPC, Washington, DC.
FWS, Portland, OR.

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE

Southwest Region
 501 West Ocean Boulevard, Suite 4200
 Long Beach, California 90802-4213

AUG 13 2004 151422SWR0413888:CD

Jack A. Blackwell
 Regional Forester, Region 5
 U.S. Department of Agriculture, Forest Service
 Content Analysis Center
 P.O. Box 22777
 Salt Lake City, UT 84122

Dear Mr. Blackwell:

RE: Draft Southern California National Forests Land Management Plans (Angeles National Forest, Cleveland National Forest, Los Padres National Forest, and San Bernardino National Forest).

The National Marine Fisheries Service (NOAA Fisheries) has reviewed the U.S. Forest Service Region 5 *Draft Land Management Plans* and the *Draft Environmental Impact Statement for Revised Land Management Plans* (Forest Plans) and has prepared these comments concerning the draft Forest Plans with particular focus on the implications for the threatened South-Central California Coast and endangered Southern California Coast Evolutionarily Significant Units (ESUs) of steelhead (*Oncorhynchus mykiss*).

The following specific comments pertain to: Part 1 - Southern California National Forests Vision, Part 2 - Strategies for the Los Padres and Cleveland National Forests, Part 3 - Design Criteria for the Southern California National Forests, and the draft EIS.

Part 1: Vision

- The Southern California National Forests' Vision acknowledges that the four southern California forests (Angeles, Cleveland, Los Padres, and San Bernardino) are included in the list of the world's biodiversity "hotspots", with 62 currently listed threatened and endangered species. What is not adequately acknowledged is that a number of these species have been effectively extirpated from some or all portions of the four Southern California National Forests. One of the most dramatic changes in the southern California forests has been the elimination of runs of anadromous fishes in the major coastal river systems south of San Francisco. Historical records indicate that Southern California and South-Central California steelhead (*O. mykiss*) were found in virtually every coastal drainage from Monterey Bay to the U.S. Mexican border. A comprehensive survey of the status of steelhead in California coastal drainages south of San Francisco indicates that anadromous runs of steelhead are effectively extinct in

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24% of the 168 streams where they occurred historically, while the status in another 31% of the streams is unknown, but are believed to be substantially reduced from historical levels, particularly in the Southern California National Forests. It was because of these dramatically depressed runs that NOAA Fisheries in 1997 listed steelhead along the South-Central Coast of California as threatened, and those in Southern California as endangered. (Titus, et al. 2001; National Marine Fisheries Service 1996a, 1996b, 1996c, 1997, 2003, and 2003).

- Anadromous steelhead (and the resident form, rainbow trout) are not only an important biological component of the Southern California National Forests' ecosystems, and a sensitive indicator of watershed and aquatic health, but also an historically important socio-economic component of the four Southern California National Forests which has been sharply diminished, or in some cases lost completely. Three notable examples are the anadromous runs in the Santa Ynez, Ventura, and Santa Clara Rivers, whose major tributaries lay within the Los Padres National Forest. Prior to the 1950s the Santa Ynez River is estimated to have supported an annual run of between 20,000 and 30,000 anadromous steelhead; this run supported a sizable steelhead sport fishery for both winter run adults and summer rearing juveniles. The economic value of this run of winter run adults was estimated at \$200,000 in 1948. The Ventura River is estimated to have supported an annual run of between 4,000 and 5,000 anadromous steelhead prior to 1946; this system also supported a popular steelhead sport fishery for both winter run adults and summer rearing juveniles. The economic value of Ventura River winter run adults was estimated at \$100,000 annually in 1948. Finally, the Santa Clara River is estimated to have supported an annual run of 9,000 adult steelhead; as with the Santa Ynez and Ventura River, the Santa Clara River/Sespe provided a significant popular steelhead sport fishery for both winter run adults and summer rearing juveniles whose economic value was comparable to the Santa Ynez and Ventura River sport fisheries. (California Department of Fish and Game 1946; Meyers 1988; Moore 1980a, 1980b; U.S. Bureau of Reclamation 1943).
- One major tool proposed by management of Southern California National Forests is monitoring of selected indicator species. Of the 10 potential indicator species identified in the draft Forest Plans, five are terrestrial plants with limited ranges, two are birds, only one of which is found in all four forests, two are mammals which are wide ranging but highly adaptive, and only one of which, an amphibian, is an aquatic species. Indicator species are chosen because of their sensitivity to habitat alterations. Salmonids are commonly chosen as indicator species because they are often the most sensitive organisms in stream systems, reflecting changes in both the aquatic environment and wider watershed processes. NOAA Fisheries believes that the salmonid species *O. mykiss* should be considered a "management indicator species" (MIS) because their abundance can be easily monitored over space and time, and because the abundance of this species can readily indicate the effects of a wide variety of Forest activities or management practices throughout the four Southern California National Forests. The suggestion that *O. mykiss* are not an appropriate MIS because a portion of this species life history is beyond the bounds of the National Forests and subject to influences beyond the control of the Forests (such as changes in climatic

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conditions) is inappropriate for several reasons. First, juvenile steelhead and resident *O. mykiss* in streams on National Forests lands are susceptible to the direct effects of Forest activities and management practices. Second, virtually all species found on the four Southern California National Forests are influenced and in some cases substantially adversely impacted by adjacent non-Forest land use practices and human activities. Third, excluding species on the grounds of external influences has the effect of masking one of the principal management challenges to the four Southern California National Forests: the management of the interface between National Forest lands and adjacent urbanized lands. To provide a reasonable assessment of the possible effects of Forest activities and the full range of management practices on a species or their habitat requires implementing a study that includes monitoring abundance (or some other population metric or habitat-based variable) in areas affected by the subject Forest activity and in areas unaffected by the activity. Thus, monitoring abundance of *O. mykiss* over time or space should be tied to specific Forest activities (e.g., monitoring the effects of a particular Forest activity in affected and unaffected sites) and would therefore be independent of mortality owing to ocean existence, climatic conditions, or rearing in streams outside Forest control.

- As noted above, the fact that anadromous *O. mykiss* do not have access to many perennial stream systems on southern California Forests is in itself an indication that Forest aquatic ecosystems are not functioning properly. In order for the National Forests to contribute to the recovery of listed steelhead and to prevent downward trends in these endangered and threatened species populations, access to currently blocked habitat will be required. Towards this end, NOAA Fisheries recommends the Forests include an explicit policy to work cooperatively with water management agencies responsible for habitat blockages and in-stream flow alterations to provide steelhead access to National Forest streams.
- The Desired Condition identified under both "Fish, Wildlife and Plant Habitat" and "Fish and Game Habitat" appears to focus primarily on vegetation, when in fact vegetation comprises only one of numerous habitat constituents that are necessary to promote survival and growth of steelhead (as well as other aquatic organisms). Moreover, the stated Desired Condition for riparian and aquatic habitat is too vague, even by programmatic standards, to develop a clear understanding of whether the proposed action will actually promote and maintain essential habitat functions for steelhead. Although the Desired Condition would be influenced by water quality, no mention of water quantity was found, though there is much evidence in the ecological literature indicating that water quantity is inextricably linked to fish and other aquatic organism abundance. Therefore, Desired Condition should explicitly include water quantity.
- The proposed monitoring and evaluation for Riparian and Aquatic Habitat Conditions (Strategic Goals) is inadequate to assess the influence of Forest activities on the aquatic environment, as well as on populations of threatened or endangered steelhead. For example, using acres of riparian habitat or miles of stream habitat as response variables are too large-scale to allow a reasonable and biologically meaningful assessment of

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whether Forest activities or management practices are affecting the aquatic environment. These response variables are insensitive to many forms of habitat alterations (e.g., accumulations of sand and smaller particles in streams, reduction in woody debris, decreased volume of surface water in streams) that can be caused by Forest activities and practices (e.g., fuel management and fire suppression) and that can be quite harmful to steelhead. While such habitat alterations might not result in a detectable reduction of acres of riparian habitat or miles of stream habitat, such alterations are likely to reduce the quantity and quality of habitat for water-dependent species such as steelhead. Furthermore, the manner in which monitoring and evaluation would be performed is vague. A detailed monitoring plan should accompany any activity that includes a monitoring component. Although NOAA Fisheries recognizes the programmatic nature of the proposed action and Forest activities, many elements of a monitoring plan can be developed and defined at this time. Monitoring plans should include a statement regarding the objectives, identification of the variables that will be measured (including the response variables), the qualitative or quantitative methods that will be used to collect and then analyze the data, the sampling design and schedule, the inferential models that will be used if quantitative methods are applied, decision and performance criteria, and reporting requirements and schedule.

- The Desired Condition identified under "Minerals and Energy Development" (Strategic Goals) states that development of minerals and energy are managed to "minimize" adverse impacts to surface and groundwater resources. NOAA Fisheries believes this statement inappropriately prioritizes development of minerals and energy extraction and facilities over water resource protection. In order to ensure that the Forest Plan provides effective guidance for the protection of water resources, NOAA Fisheries recommends the word "minimize" be replaced with the phrase "avoid to the maximum extent possible."

Part 2: Strategy (Los Padres National Forest)

- Wild and Scenic River designations are intended to recognize rivers or portions of river systems which have outstanding ecological, scenic and wilderness values. NOAA Fisheries supports the proposed designation of portions of Piru Creek, Sespe Creek, and Arroyo Seco River. However, we would also recommend the addition of Matilija Creek above the confluence of the Upper North Fork, the Upper North Fork of Matilija Creek, and the middle reaches of Piru Creek between Santa Felecia Dam and Pyramid Dam. The upper reaches of Matilija Creek possess similar ecological, scenic and wilderness values as those river and creek reaches being proposed for inclusion in the Wild and Scenic River System; additionally, a major planning effort is currently underway to remove Matilija Dam on the lower Matilija Creek as part of the U.S. Army Corps of Engineers Matilija Dam Ecosystem Restoration Project, thus, further enhancing the wild and scenic features of Matilija Creek above the confluence of the Upper North Fork Matilija Creek. The middle reaches of Piru Creek are situated in one of the most rugged reaches of the Piru Creek system and also possess ecological, scenic and wilderness values comparable to those river and creek reaches being proposed for

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inclusion in the Wild and Scenic River system. Additionally, there is significant planning underway by the Federal Energy Regulatory Commission on the operation of Santa Felecia Dam which offer significant opportunities to restore wilderness values in the middle reaches of Piru Creek.

- Research Natural Areas are areas that include relatively undisturbed areas of the National Forest which function as reference areas for evaluating impacts of management practices in similar environments. They also serve to protect and maintain representative or key elements of biological diversity at the genetic, species, population, community, or ecosystem levels; and have other research and educational values of socio-economic importance. Preliminary studies by NOAA Fisheries' Southwest Science Center have indicated that *O. mykiss* residing in the north fork of Juncal Creek in the Santa Ynez system harbor a remnant anadromous population that may be genealogically important for the recovery of the Southern California Steelhead ESU. Furthermore, North Fork Juncal Creek is relatively undisturbed and can serve as a baseline to measure management impacts and ecological change. Therefore, NOAA Fisheries recommends that North Fork Juncal Creek be designated as a Research Natural Area as part of the Forest's preferred alternative.
- The Forests Plans Vision states that one goal for resource management is that "listed species are recovered." NOAA Fisheries believes that restoring fish passage above major dams blocking fish passage into prime steelhead spawning and rearing habitats within the National Forests is one of the most effective means of restoring threatened and endangered steelhead in the four Southern California National Forests. Consequently, NOAA Fisheries recommends that a Desired Condition for the Figueroa – Santa Ynez should include the restoration of steelhead access to essential habitat in the Forest. Additionally, the Program Emphasis for the Figueroa-Santa Ynez should include cooperative efforts with the Bureau of Reclamation and other management parties associated with Bradbury and Gibraltar dams to restore the Forest's lost steelhead populations (National Marine Fisheries Service 2003).
- The Sespe and Highway 33 Corridor include portions of Sespe Creek managed by the Los Padres National Forest. Large numbers of exotic aquatic species such as bullfrogs, catfish, bass, and sunfish are currently found in Sespe Creek. The distribution and number of exotic fishes has increased significantly over the last ten years. NOAA Fisheries is concerned about adverse effects to steelhead from competitive and predatory interactions between *O. mykiss* and these invasive species. The presence of these exotic species and the extirpation of native fish and amphibian species also has the potential to undermine the Wild and Scenic River designation of Sespe Creek. NOAA Fisheries therefore strongly recommends including the control of aquatic exotic species in the Desired Condition and Program Emphasis for these places.
- Critical Biological Zones are areas of the National Forest believed to be "the most important areas on the Los Padres National Forest to manage for the protection of imperiled species". However, the draft Forest Plan has not designated Critical Biological zones for important steelhead streams in any alternatives identified. The

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Forest manages large portions of major river systems and pristine steelhead spawning and rearing habitat that NOAA Fisheries believes may be critical for the recovery of the South-Central California Coast and Southern California Steelhead ESU. NOAA Fisheries believes that the Big Sur River, Little Sur River, Salmon Creek, and the headwater streams of San Corpoforo Creek within the northern portion of the Los Padres; and the Sisquoc River, upper Matilija Creek, and Sespe Creek on the southern portion of the Forest all meet the criteria for Critical Biological Zones and encourages designating the following areas as such to protect imperiled steelhead.

- Portions of Little Sur River and tributaries managed by the Forest that will not conflict with current uses
 - Portion of the Big Sur River currently designated as *Wild and Scenic*
 - Portions of Salmon Creek managed by the Forest
 - Portions of the San Corpoforo system managed by the Forest
 - Portion of the Sisquoc River currently designated as *Wild and Scenic*
 - Portions of Matilija Creek above the confluence of the Upper North Fork, Upper North Fork and Murietta Creek managed by the Forest
 - Portion of Sespe Creek currently designated as *Wild and Scenic*
- Alternative 4 emphasizes that Wilderness, lands with high scenic integrity, important heritage resources, and lands with dispersed recreation opportunities are priorities for acquisition. Section 5 (1534 Land Acquisition) of the Endangered Species Act (ESA) states that the Secretary of Agriculture shall utilize their authorities to acquire land for the purpose of carrying out programs to conserve fish and wildlife, including endangered species. Because of the outstanding habitat values, particularly for endangered and threatened steelhead, NOAA Fisheries recommends the consideration of acquisition of privately held parcels in the following areas: Indian and Mono Creeks above their confluence with the Santa Ynez River, Matilija Creek above the confluence of Upper North Fork, and Piru Creek between Santa Felicia and Pyramid Dams. NOAA Fisheries recommends that the selected alternative for the Los Padres National Forest explicitly include a reference to this section of the Act (See also Reference page 3-7 of the Executive Summary EIS), and identify the above areas for acquisition consideration.
 - The preferred alternative of the Los Padres National Forest (Alternative 4) is described as the second most damaging alternative to species at risk. This assessment is not consistent with the Vision for the four Southern California National Forests. NOAA Fisheries believes that by incorporating NOAA Fisheries' recommendations, in particular working with water agencies to provide steelhead access to the Forest, into the preferred alternative the Forest will make important contributions to the recovery of endangered and threatened steelhead. NOAA Fisheries also believes that incorporating the Critical Biological zones recommended above into the Strategy, the National Forest will more fully realize the Vision for the four Southern California National Forests.

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Part 2: Strategy (Cleveland National Forest)

- The Cleveland National Forest Strategy includes a discussion of public uses regulated by other agencies. This discussion focuses on fishing and hunting activities regulated by California Department of Fish and Game. This section should include a discussion of the regulation of federally listed species by NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS). (See also the comments regarding the provisions of section 7a(1) and section 5 of the ESA.)
- Many land management strategies attempt to manage individual components of an ecosystem without assessing the condition of an ecosystem as a whole. Pertinent to resource management on a large scale, and to the survival and recovery of endangered steelhead on the Cleveland National Forest, is the maintenance of species diversity and ecological integrity. Therefore, NOAA Fisheries recommends that the maintenance of species diversity and ecological integrity be referenced as a specific, over-arching resource management objective.
- Strategies devised for each Forest Plan are intended to meet the Region’s goals outlined in the Vision document. NOAA Fisheries believes that the Cleveland Strategy to implement only 5% of the species recovery plans and species and habitat conservation strategies identified in the Forest Plan over the next five years will be inadequate to meet the vision of ensuring long-term ecosystem health, biological diversity, and species recovery. NOAA Fisheries recommends that the Forest Plan be modified to assign a high priority to implanting those plans and habitat conservation strategies which are aimed at protecting and recovering federally listed species found on or dependent upon National Forest lands.
- The Strategy describes a protocol for contacting USFWS when spills of hazardous materials may affect listed species. This protocol description should include contacting NOAA Fisheries when a hazardous material spill has the potential to affect steelhead.
- Southern California Steelhead have no current designated Critical Habitat. However, NOAA Fisheries is currently preparing a proposed rule designating Critical Habitat for the Southern California Steelhead ESU which encompasses portions of the Cleveland National Forest.
- Devil Canyon Creek provides the most southerly, perennial, and properly functioning habitat for steelhead in the United States. These attributes, among others, make Devil Canyon Creek especially unique. Therefore, NOAA Fisheries strongly recommends assigning Critical Biological status to Devil Canyon Creek.

Part 3: Design Criteria

- Standard 41 requires on-Forest facilities to provide in-stream flows necessary for fish passage when native or desired nonnative fish distribution can be restored or enhanced

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and not cause adverse effects to other native species. NOAA Fisheries believes that fish passage in general, including removal or modification of physical impediments, should be explicitly incorporated into this standard.

- Foam is more toxic to fish than long-term fire retardants (Buhl & Hamilton 1998, among others). NOAA Fisheries recommends considering using long-term fire retardant free of sodium ferrocyanide before considering the use of foam when implementing Minimum Impact Suppression Tactics (MIST) (reference appendix B-5). It is also recommended that the application, storage, and mixing of foaming agents not occur within 300 feet of surface waters.
- Appendix F discusses guidelines on the use of fire retardant applied near waterways. Fire retardant is a concern to NOAA Fisheries because it is toxic to steelhead (Gaikowski et al. 1996a; Labat-Anderson 1996; Buhl and Hamilton 2000), other fish (Gaikowski et al. 1996b), some aquatic invertebrates, and at least some forms of aquatic algae (McDonald et al. 1996; McDonald et al. 1997). Long-term fire retardants made with sodium ferrocyanide (YPS) as in Fire-Trol® GTS-R, can be more toxic than retardants in which YPS is absent (Little and Calfee 2002a; Little and Calfee 2002b). This is due to the chemical reaction that occurs when YPS is exposed to ultra-violet light and water. The reaction releases free cyanide in retardant containing YPS, and can double the retardant’s toxicity (Little and Calfee 2002b). Accidental applications and spills of fire retardants into streams have been implicated in fish kills (Minshall et al. 1989; Carlson 1999; Marx pers. comm. 2002), and simulated exposures to terrestrial and aquatic species by Labat-Anderson (1996) indicated that retardants would have adverse effects in all ecosystems. Fire retardant chemicals can also enter aquatic environments through run-off (Labat-Anderson 1996; Little and Calfee 2002a; Little and Calfee 2002c). Rainwater run-off from watersheds treated with recommended mixtures of retardant concentrations may pose environmental hazards for weeks after application. On sandy and gravelly soils, toxicities of Fire Trol® GTS-R retardant increase with longer exposures to weathering (Little and Calfee 2002c). Because of the risks fire retardants pose to the aquatic environment in which steelhead depend, NOAA Fisheries recommends the U.S. Forest Service consult with our agency on the use of fire retardant on Federal lands managed by them to assess potential impacts to listed steelhead and to develop any further guidance necessary for the protection of the species. Consultation could occur at the national, regional, or individual forest level, or some combination as appropriate.

Draft EIS:

- NOAA Fisheries recognizes that descriptions of the program elements (including activities embodied within each element) and the environmental consequences are necessarily general owing to the programmatic nature of the EIS and proposed action. The vagueness of some activity descriptions, however, is not consistent with the requirements even for a programmatic EIS. The descriptions of environmental consequences are generally inadequate to provide even a general understanding of the depth and breadth of the possible effects of Forest activities on any federally threatened

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or endangered species and their habitat over time and space. Consequently, the effects of Forest activities on the long-term survival of threatened and endangered steelhead are largely unknown and, therefore, are of concern.

The EIS does not propose a mechanism to manage numerous uncertainties related to the implementation of the proposed action and related Forest activities. The uncertainties appear to involve: (1) the specific location where activities will be implemented; (2) the type and amount of habitat that would be affected; (3) the type, amount, and duration of adverse effects to steelhead; (4) the effectiveness of avoidance compensation, and type and amount of allocated compensatory mitigation; (5) the effectiveness of monitoring; and (6) the performance of avoidance and compensatory mitigation. To address these uncertainties, the EIS should be modified to include the following:

- Define a system for estimating the number of steelhead that may be affected by project-level activities;
- Define a process for measuring the type (e.g., spawning, rearing, migration), quantity and quality of habitat that is affected by project-level activities;
- Outline the avoidance and minimization measures (i.e., compensatory mitigation program) that will be implemented to offset effects of project-level activities on steelhead and instream and riparian habitat;
- Define a procedure for measuring and detecting spatial and temporal changes in habitat quality and quantity; and
- Define a protocol that will track performance of the avoidance and compensatory-mitigation program, respond to new information or changing conditions, and detect and reconcile deficiencies or problems in a timely manner.

The proposed Forest Plans should identify an explicit process for increasing the likelihood that activities conducted under the auspices of the Forest Plans are implemented in a manner that would be consistent with initial design standards and specifications, precautionary or protective measures, and performance goals. To this end, each project-level activity should undergo a three-step process involving: planning and design, implementation, and compliance monitoring. During planning and design, the Forest should: (1) evaluate the activity for adverse effects to steelhead and other species that may be listed in the future by NOAA Fisheries; (2) make all feasible modifications to the activity (including the timing of implementation) for the purpose of minimizing potential adverse effects on listed species; (3) determine whether the activity is likely to adversely affect the species; (4) submit its determination to NOAA Fisheries along with a consultation request; (5) support its determination by an analysis that includes a description of the existing condition of the watershed and project area, a description of the range of natural variability of the important physical and biological components of the watershed, and how the proposed activity maintains the existing condition or moves it within the range of natural variability; (6) prepare a final effects determination that includes the

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recommendations to minimize effects on listed species that may be provided by NOAA Fisheries; and (7) avoid implementing activities that do not maintain the existing conditions or promote improved conditions over time.

During the implementation phase of an individual project, the Forest should incorporate into each activity restrictions and limitations (i.e., precautionary or protective measures) on the manner in which the activity would be implemented for the purpose of protecting listed species and their habitat. During the compliance-monitoring phase, the Forest should ensure that processes are followed to increase the likelihood that activities are implemented in a manner that would be consistent with initial design standards and specifications, general conditions and practice-specific conditions, and performance goals. Forest staff should visit the subject workspace before the practice is implemented for the purpose of briefing workers on issues and concerns regarding listed species and their habitat. Forest staff should perform post-construction inspections of the workspace to determine whether the activity has been implemented as planned, including adherence to conditions. Once every year for a total of five years, Forest staff should visit the workspace to assess status and condition of the constructed activity or treatment, compare the constructed practice against original plans, and provide recommendations to management for resolving any problem or for making adjustments to increase post-construction (or implementation) effectiveness.

- The Resource Protection Measures identified in the draft EIS cites section 7a(2) of the ESA that requires federal agencies to consult with NOAA Fisheries and USFWS to ensure that a project does not jeopardize the existence of a listed species. However, section 7a(1) is not included in this discussion. This section of the ESA is essential to listed species protection and recovery because it requires all federal agencies whose activities may affect federally-listed species to utilize their own programs to further the conservation (recovery) of endangered species. As noted above, the Forest Service controls significant portions of the historic prime steelhead spawning and rearing, as well as migratory, habitat, on the four Southern California National Forests. These habitats are critically important to any recovery efforts for both the threatened and endangered steelhead in the South-Central Coast and Southern California Steelhead Evolutionarily Significant Units. Therefore, NOAA Fisheries recommends including section 7a(1) under the list of laws, regulations and policy for the protection of federally listed threatened or endangered species.
- The EIS describes a number of potential watershed restoration activities, but does not emphasize the need to re-connect watersheds to their outlets at the Pacific Ocean. NOAA Fisheries believes that watershed restoration activities should include, wherever possible, cooperative efforts with water management agencies to provide migration opportunities for native fish throughout their range. Restoring access to perennial stream systems on Forest lands is necessary to prevent further downward trends in the steelhead population, as well as to the ultimate recovery and down-listing or delisting of the Southern California and South-Central California Coast steelhead ESUs. (This issue is also relevant to the-discussion on pages 3-123 and 3-124 regarding non-consumptive water uses).

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- NOAA Fisheries recommends that PACFish buffer widths be identified in the EIS's discussion of riparian buffers on page 3-125 to clarify that larger buffers than identified here may be required along streams supporting anadromous salmonids. The PACFish standards should be cited in the list of guidance documents upon which the Forest Plans rely for technical standards.

NOAA Fisheries appreciates the opportunity to comment on the four draft Southern California National Forest Plans and accompanying EIS. The Forest Plans offer an important opportunity to redress the paucity of planning within the four Southern California National Forests for the conservation and recovery of the federally listed threatened and endangered steelhead, a species which historically has performed both essential ecological functions throughout the Forests as well as provided important socio-economic benefits to forest users and surrounding communities. We hope that these comments and recommendations will prove useful contributions to the development of Region 5's updated National Forest management plans and that endangered and threatened steelhead dependent on forest habitat will benefit from our continued cooperative efforts.

If you have any questions concerning this letter or if you would like additional information, please contact Christina Dueber at (805) 967-3481 ext. 253, Anthony Spina (562) 980-4045, or Mark Capelli at (805) 963-6478.

Sincerely,



Rodney R. McInnis
Regional Administrator

cc: Craig Cowdie, Cleveland National Forest
Donna Toth, Los Padres National Forest
Christina Dueber, NOAA Fisheries
Mark Capelli, NOAA Fisheries
Anthony Spina, NOAA Fisheries
David Boughton, NOAA Fisheries
Mary Larson, California Department of Fish and Game

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73196
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION IX
 75 Hawthorne Street
 San Francisco, CA 94105

August 23, 2004

Jack Blackwell
 Regional Forester
 Pacific Southwest Region
 US Forest Service
 1323 Club Drive
 Vallejo, CA 94592

Subject: Draft Environmental Impact Statement for Southern California
 Forest Plan Revisions: Angeles, San Bernardino, Cleveland, and
 Los Padres National Forests (CEQ # 040217)

Dear Mr. Blackwell:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced draft environmental impact statement (DEIS) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. Our detailed comments are enclosed.

EPA recognizes the significant challenges confronting the Southern California National Forests caused by increasing urbanization, severe drought and insect damage, high fire hazard, and ever-expanding diverse, and, at times, conflicting forest use demands. We commend the new planning format that integrates an over-arching vision, design criteria and legal framework, and forest-specific strategies linked to national goals. Of special note are the forest-specific strategies and their characterization of geographic units' program focuses and desired conditions.

The identified preferred alternatives are Alternative 2 for the Cleveland National Forest, and Alternative 4 for the Angeles, Los Padres, and San Bernardino National Forests. Alternative 2 focuses on maintaining biological diversity and ecological integrity while providing a gradual increase in recreation opportunities through reconstruction of degraded facilities, construction of new facilities to accommodate increasing demand, more intensive user controls, and avoidance and minimization of effects to species-at-risk. Alternative 4 has an increased emphasis on recreation with intensive levels of management controls and measures to offset the effects on biological diversity and ecological integrity of the forest.

EPA concerns include avoidable impacts to sensitive resources, water quality and quantity, and air quality; integration of fire use as a management tool; and the feasibility and sources of adequate management and monitoring funding. While we understand the above alternatives provide management flexibility, multiple use benefits, and continue motorized access

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in many locations for fire suppression, community protection, and forest health projects; we are concerned with the ability of the preferred alternatives to minimize environmental impacts and expeditiously move the forests toward stated desired conditions.

We have rated the preferred alternatives (Alternatives 2 and 4) as Environmental Concerns - Insufficient Information (EC-2). Please see the enclosed Rating Factors for a description of EPA's rating system.

We appreciate the opportunity to review this DEIS. When the Final EIS is released for public review, please send one copy to the address above (mail code: CMD-2). If you have any questions, please contact me or Laura Fujii, the lead reviewer for this project. Laura can be reached at 415-972-3852 or fujii.laura@epa.gov.

Sincerely,

Lisa B. Hanf, Manager
 Federal Activities Office
 Cross Media Division

Enclosures:
 Summary of EPA Rating Definitions
 EPA's Detailed Comments

cc: Ron Pugh, Program Leader, Cleveland National Forest
 USDA Forest Service Content Analysis Center
 Forest Supervisor, Los Padres National Forest

SUMMARY OF EPA RATING DEFINITIONS T3196

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

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EPA DETAILED COMMENTS FOR THE DEIS SOUTHERN CALIFORNIA FOREST MANAGEMENT PLAN REVISIONS, CA, AUGUST 23, 2004

Alternatives

1. Alternative 4 would have the next to largest level of disturbance to soils (20 percent increase in activity) (pg. 2-13), focus on improving roads for public access rather than wildfire engine safety (pg. 3-242), and rely on greater Forest Service presence and user restrictions to maintain sustainable recreational uses (pg. 3-143). For these reasons, and the history of flat to reducing budgets (Forest-Specific Strategies), we are concerned with the ability of this alternative to minimize environmental impacts and expeditiously move the forests toward stated desired conditions.

Recommendation:

We recommend the Forest Service consider modifications to Alternative 4 to reduce the level of soil disturbance and more aggressively address the deterioration of all roads, including maintenance level 3 and 4 roads needed to ensure wildfire engine safety. Addressing the road maintenance backlog is essential in meeting fire suppression, healthy forest, community protection, and water quality objectives.

2. Alternative 4 is also less protective of unique resources such as grabbo outcrops and pebble plain because it does not ensure protection of all identified candidate research natural areas (RNAs) (pg. 3-49, 3-52). The draft environmental impact statement (DEIS) clearly states that failure to establish identified candidate research natural areas during the planning period will perpetuate substantial gaps in the RNA target element system, a major goal of the RNA program. Furthermore, these areas are of great value as control areas against which to compare effects of management activities, a key requirement when relying on adaptive management.

Recommendation:

We recommend Alternative 4 be modified to fully protect unique and sensitive habitats by designating all identified candidate research natural areas.

3. While Alternative 2 would focus more on maintaining biological and ecological integrity, the DEIS states that it would be slightly less protective of watersheds than Alternative 4 which focuses on recreational development (pgs. 2-13).

Recommendation:

The final environmental impact statement (FEIS) should provide more information on why Alternative 4 provides more protection for watersheds than Alternative 2. For example, does Alternative 4 provide more watershed protection because it includes more restoration projects, relocates heavy recreational use away from sensitive riparian areas, or more aggressively addresses recreational impacts with mitigation?

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Water Supply

1. The DEIS clearly identifies the key role National Forest system lands have in contributing to and maintaining the southern California water supply (pgs. 3-124 to 3-144). These forests were originally established as "watershed forests" (pg. 3-127). Community drinking water supplies are wholly or partially provided in 44 watersheds on the forests. An increasing management challenge is balancing the maintenance of water for forest resource needs and extraction of water for human needs, especially since the Forest Service has little control over water extractions outside Forest Service boundaries (pg. 3-145). An emerging issue is pumping outside Forest Service boundaries or within in-holdings which could be extracting groundwater from underneath Forest Service lands (pg. 3-127).

Recommendations:

As stewards of the headwaters for primary water supply sources for southern California, we urge the Forest Service to more actively prevent causes of watershed degradation by protecting remaining high quality areas, preventing further degradation, and restoring ecological conditions and functions. While we understand that Alternative 6 provides this focus, we also recognize the need for the Forest Service to address other resource and multi-use demands. We recommend the Forest Service consider incorporating watershed components of Alternative 6 in Alternatives 2 and 4.

The FEIS should include a section describing management activities to preserve and enhance the Forests' ability to protect watersheds that provide critical water supply sources. For instance, list in the Forest-Specific Strategies whether actions will be taken to preserve water rights, relocate roads and recreational activities to remove hazardous waste and sediment inputs to water supply streams, and restore key water supply watersheds.

The Forest Service should also continue to participate in public forums and dialogues regarding southern California water policy, development, and use. A Forest Service presence is helpful in efforts to improve water quality and quantity in water supply headwaters, groundwater management, water development in or near Forest Service lands, and water transfer programs.

Fire Management

1. Catastrophic wildfires over the last 10 years, such as the fires of October 2003, have highlighted the urgent need to address fire and fuels management in the National Forests. The 2001 Federal Fire Policy underscores the need for Fire Management Plans that identify and integrate all fire management and related activities within the context of approved land management plans. Guiding principles state the role of wildland fire as an essential ecological process and natural change agent that will be incorporated into the planning process. The 2001 Federal Fire Policy also emphasizes the need to more effectively and directly integrate fire management activities with other natural resource goals. Thus, Land and Resources Management

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Plans (LRMPs) and Fire Management Plans should appropriately incorporate activities that contribute to ecosystem sustainability.¹

Recommendation:

The FEIS should describe the status of each Forests' Fire Management Plan and describe how they will be updated once the Forest plan revisions are approved. Specifically describe how the plan revisions integrate fire as a critical natural process.

2. Preferred Alternatives 2 and 4 emphasize a suppression strategy that mitigates increased human caused ignitions with aggressive fire suppression and strategically located vegetation treatments in chaparral and fire prone vegetation types (pg. 3-47). In partnership with the Interagency Air and Smoke Council, EPA and other Federal Agencies have developed the Wildland Fire Use Management Protocol (Protocol). The Protocol provides guidance on when and how to use wildland fires to meet management and resource needs. We understand the southern California forests will not be using this Protocol due to the significant risk of wildland fires placing communities at risk.

Recommendation:

Given the high costs of fire suppression and vegetation treatments, and the Federal Fire Policy emphasis on integrating fire into management, the FEIS should address the feasibility of a fire-use strategy to meet management and resource needs. We recommend the preferred alternatives increase their focus on fire suppression and treatments within the wildland-urban interface (WUI) and fire-use in more remote areas.

Monitoring

1. The preferred alternatives include an adaptive management approach to ensure achievement of stated goals, objectives, and desired conditions. Annual monitoring and extensive monitoring every 5 years is proposed (Part 1 National Forests Vision). The DEIS does not provide detailed monitoring plans or information on funding for this work.

Recommendation:

The FEIS should provide example monitoring plans and more specific information regarding who will fund and implement monitoring procedures. If feasible, include information on the reliability and sources of funding for monitoring.

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Mitigation

1. The DEIS describes direct, indirect, and cumulative impacts to vegetation resources, forest health, biodiversity, invasive nonnative species, watersheds, soils, airsheds, and geological resources. However, the DEIS does not appear to address in detail mitigation for these impacts.

Recommendation:

The FEIS should provide a short chapter on mitigation, listing potential mitigation measures that could improve the project, even if they are outside the jurisdiction of the Forest Service [40 CFR Section 1502.16(h); 40 Questions and Answers About the NEPA Regulations, CEQ Memorandum March 16, 1981].

Los Padres National Forest

1. The DEIS states that restrictions placed on lands available for oil and gas development on the Los Padres National Forest would be based on the pending Record of Decision for the Los Padres National Forest Oil and Gas EIS (pg. 3-145). EPA's review of the Los Padres National Forest Oil and Gas DEIS identified significant air quality impacts that should be avoided or minimized to provide adequate protection for the environment. We assigned a rating of Environmental Objections - Insufficient Information (EO-2) to the preferred alternative for the Oil and Gas DEIS and requested the Forest Service retain its ability to request additional mitigation measures or deny subsequent development in situations where development would adversely affect sensitive forest resources (EPA letter to Jeannie Derby, Forest Supervisor, Los Padres National Forest, April 19, 2002).

Recommendation:

The FEIS should include a short description of the preferred alternative of the Los Padres National Forest Oil and Gas EIS.

General Comments

1. Part 1 National Forests Vision states that "a plan by itself is not an action-forcing document and therefore is not a major federal action having a significant effect on the quality of the human environment" (pg. Introduction-4). This statement raises the question of whether such a plan triggers National Environmental Policy Act (NEPA) requirements which are initiated to evaluate the potential environmental consequences of a major federal action. We recognize that the southern California Forest Supervisors elected to complete the plan revisions using the 1982 Planning Rule (pg. 1-5) which requires an EIS.

EPA strongly supports NEPA evaluation at the land management planning level. Forest Plans set land allocations, standards and guidelines for managing the different allocations, overall grazing and logging levels, identifies lands suitable for timber production, and considers cumulative effects. Plans, therefore, can significantly affect on-the-ground effects from project-level actions. The National Forest Management Act, Forest Plans, and NEPA analysis of these plans have been central to balanced consideration of appropriate land uses on the nation's

T3196

National Forests. NEPA evaluation at the plan revision level provides a forum to substantively engage in a public dialogue on water quality, air quality, land use allocations, cumulative effects and ecological issues.

Recommendation:

The FEIS should clarify the intent of the above statement in Part 1 National Forests Vision. We request the Forest Service clarify existing policy regarding application of NEPA to future land management plan amendments.

2. The Forest-Specific Strategies describe ambitious programs for implementing national and forest-specific goals and objectives to move the forests towards desired conditions. While these plans are commendable, the level of work described appears greater than can be achieved given historical funding levels.

Recommendation:

We recommend the Forest Service continue to explore ways to collaborate with other agencies and the surrounding communities to meet management and ecosystem needs. The FEIS should include a short section describing how communities, industry, and the interested public can participate more actively with the Forest Service in achieving common resource and management goals. For instance, list forest-specific Federal advisory committees (FACA groups), joint private/public projects, community wildfire protection planning efforts, and fire safe councils with contact information.

3. In southern California the National Forests are considered core areas for the maintenance of biological diversity (pg. 3-98). Although all alternatives include direction to maintain biodiversity, Forest Service lands are managed for multiple uses. EPA provided comments on the 2003 Western Riverside County Multiple Species Habitat Conservation Plan DEIS (Riverside MSHCP), expressing concern with the reliance on Public/Quasi-Public lands to provide the backbone of the proposed Conservation Area. We expressed concerns with reliance upon surrounding National Forest Service lands which serve multiple uses that can conflict with preservation and conservation of sensitive species and habitats.

Recommendation:

Where applicable, the Forest-Specific Strategies should fully disclose their management intent and ability to provide preservation and conservation coverage for biodiversity and threatened and endangered species as required by the Western Riverside MSHCP.

T464

Salinan Comments on Proposed Forest Service Plan
May 22, 2004

The complex of Salinan sites comprising the proposed Milpitas Special Interest Area (MSIA) includes the Indians, Wagon Cave, T'cahal and the Memorial Park. These sites are connected to each other culturally, geographically and spiritually. Sta'yokale (Serra Peak) is the most sacred Salinan site and ties each of these MSIA sites together as their central focal point. Inexplicably, Sta'yokale was excluded from the MSIA map. Sta'yokale is the central physical feature on the MSIA landscape as well as in Salinan cultural geography; it must be included in the designated MSIA map.

The Milpitas SIA, including Sta'yokale, possesses significant pre-historical, archaeological, historical, cultural and scientific values. These rare and precious values need to be recognized and protected for generations to come. The best protection for the MSIA must ultimately be a designation either as a National Monument or as a Wilderness area. Sta'yokale already has a Wilderness designation. The proposed designation of Milpitas Special Interest Area serves as an adequate short term method for obtaining the long term goal of designation as a National Monument or Wilderness for the entire area.

One of the major problems with "Preferred Alternative 4" is that the Forest Service is unable to protect the MSIA at its current level of visitor usage. Looting and destruction of natural and cultural sites continues unabated. We are tremendously concerned that increased recreation and motorized uses in the MSIA would result in further and increased destruction of the natural and cultural sites. Although the Forest Service is committed to protecting these resources, they are not able to do so due to inadequate staffing.

We are committed to working with the Forest Service to obtain this long needed permanent protection for the proposed Milpitas Special Interest Area.

Yaxap'

Salinan Nation Cultural Preservation Association

AEEC RECEIVED

JUN 28 2004

5225 Roeder Rd
San Jose, CA 95111
Jose Freeman - President (josefree@cciol.com) / Gregg Castro - Sec/Treas. (gcastro@pacbell.net)

T465



Forest Plan Revision
Angeles, Cleveland, Los Padres, and San Bernardino
Public Review of Draft Plans and DEIS
Spring/Summer 2004
Comment Form

Remember --- you can submit your comments on-line at www.fs.fed.us/r5/scfpr/!

Date: 22, MAY - 2004

Name: Stephanie Hershey - Coastal Band of the Chumash Nat

Are you submitting comments as an official representative of an agency or organization? If so, please include your title and the name of organization or agency you represent:

Same As Above - Tribal Chairperson

Mailing Address: PO Box 579 - Buellton CA 93427

Phone Number/E-Mail Address (optional): 805-325-1798

My comments apply to:

- Angeles National Forest
- Cleveland National Forest
- Los Padres National Forest
- San Bernardino National Forest

(Please be as specific as possible with your comments. If applicable, indicate where your comment applies: document, section, page number, map location, etc.)

I would like to be contacted on any Chumash questions, sites, and upcoming events.

(continue comments on reverse)

Please mail your comments to:

Southern California Forest Plan Revisions
USDA Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, UT 84122

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JUN 28 2004

Comments Must Be Postmarked by August 11, 2004

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL PLANNING, BUILDING & ENGINEERING



T1626

August 4, 2004

Jack A. Blackwell, Regional Forester
Southern California Forest Plan Revisions
San Bernardino National Forest
USDA Forest Service Content Analysis Center
PO Box 22777
Salt Lake City, Utah 84122

Re: RESPONSE TO DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE REVISED LAND MANAGEMENT PLAN ON THE SAN BERNARDINO NATIONAL FOREST

Dear Mr. Blackwell,

Tribal Planning Staff recommends Alternative 2 as the alternative of choice for the Environmental Impact Statement (EIS) for the Revised Land Management Plan on the San Bernardino National Forest rather than the suggested preferred Alternative 4. The preference for Alternative 2 is based upon the relationship of goals and objectives within Alternative 2 that are consistent with the goals and objectives of the Tribal Habitat Conservation Plan, Indian Canyons Master Plan and the Tahquitz Canyon Wetland Conservation Plan such as:

- providing access for recreational dispatch points;
- providing access for ground fire suppression rather than the limitations of air suppression for catastrophic wild fire;
- establishing an emphasis for early detection to contain and control weeds in a variety of sensitive habitats and riparian habitats;
- establishing an emphasis on conservation education and development of partnerships focused on understanding and protecting watershed dynamics and functions; and
- proposing an increase in the number of managed heritage sites.

The following questions address specific sections within the plan:

Cultural Resources

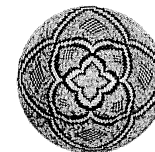
- Will Region 5 Section 106 Programmatic Agreement be included in the appendix? It is mentioned within the text several times but not attached or paraphrased within the report.
- Will a discovery plan be used when unanticipated archaeological remains are uncovered? Will that discovery plan be included in all plan alternatives?

AEEC RECEIVED

650 EAST TAHQUITZ CANYON WAY, PALM SPRINGS, CA 92262
T 760/325/3400 F 760/323/6952 AGUACALIENTE.ORG

AUG 09 2004

T1626



Tribal Relations

- Within *Part 2: San Bernardino National Forest Strategy*, Program Strategies and Tactics, Management and Administration discussion relates to Tribal Relations and developing protocols to promote 'collaborative partnerships, ecosystem restoration, and comprehensive fire planning', etc. Within a geographic context, where are the proposed spatial linkages between forest boundaries and contiguous Tribal properties that would promote the aforementioned developments? How would those occur if forest land that was contiguous with Tribal land is designated as proposed wilderness areas?
- Within *Part 1: Southern California National Forests Vision*, the management plan indicates that, "Every fifth year forests will evaluate Native American feedback and satisfaction as an indicator of progress toward the desired condition." What will be the mechanism to incorporate that feedback into the operation of the management plan?

Thank you for the opportunity to comment on this Draft EIS. If you have any questions please contact Kathy Marx, Associate Planner, at (760) 883-1338.

Very truly yours,

Thomas J. Davis, AICP
Chief Planning Officer
**AGUA CALIENTE BAND
OF CAHUILLA INDIANS**

TJD/KM/ts

C: Tribal Council
Margaret Park, Director of Planning

P:\Private\Ltr-TJD\080404 USFS forest mgmt plan ltr.doc

AGUA CALIENTE BAND OF CAHUILLA INDIANS
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VIEJAS

TRIBAL GOVERNMENT

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Anthony R. Pico, Chairman
 Bobby L. Barrett, Vice Chairman
 Diane L. Aguilar, Tribal Secretary
 John A. Christman, Tribal Treasurer
 Virginia M. Christman, Councilwoman
 Drucilla L. Espinoza, Councilwoman
 Alan L. Barrett, Councilman

August 10, 2004

USDA Forest Service Content Analysis Center
 P.O. Box 22777
 Salt Lake City, UT 84122

SENT VIA FAX:
801-517-1015

RE: Request for 60-day Extension to Comment on Draft EIS and Draft Management Plans for the Four Southern California National Forests.

Dear Sir or Madam:

The Viejas Band of Kumeyaay Indians (hereinafter "Tribe") is a federally-recognized Indian Tribe as evidenced by current listing in the Federal Register at Vol. 68, No. 234, p. 68180; as the Viejas (Baron Long) Group of Capitan Grande Band of Mission Indians of the Viejas Reservation, California. The Viejas Band is a self-governing tribe exercising sovereign authority over the Viejas Indian Reservation, located on the eastern edge of Viejas Mountain and surrounded on three sides by Forest Service lands. The Viejas Band also shares joint ownership (with the Barona Band) of the Capitan Grand Indian Reservation located to the north of the Viejas Reservation.

The Viejas Band previously submitted comments on the Forest Service Plan Update on April 1, 2002. A copy of those comments is attached for your information.

At this time, the Viejas Band is actively engaged in the development of a land use master plan. Tom Gillett, Head Ranger, Descanso Ranger Station, and Bernice Bigelow, Resource & Land Management Planning Staff Officer, and

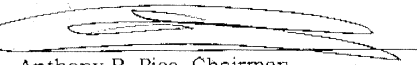
TZISS

their staff provided the Viejas Band with a presentation of the EIS and Draft Management Plans for the Four Southern California National Forests on July 14, 2004. On July 27, 2004, the Viejas Tribal Council reviewed the staff report prepared from the July 14, 2004 meeting and referred information to a special ad-hoc committee for further review.

Due to the technical nature of the information as well as a need to review other concurrent planning process underway by the County of San Diego, US Fish and Wildlife Service, California Department of Highways, San Diego Association of Governments, and two Multiple Species Conservation Planning efforts that impact both the Viejas and Capitan Grande Reservations, the Viejas Band requires an additional 60 days to prepare comments on the EIS and Draft Management Plans for the Four Southern California National Forests.

Should you have any comments on this issue, please contact Lisa Haws, Community Development Program Manager, at (619) 659-2341. Thank you.

Sincerely,



Anthony R. Pico, Chairman
 Viejas Tribal Council
 Viejas Band of Kumeyaay Indians

cc: Tom Gillett, Descanso Ranger Station Fax: 619-445-1753
 Bernice Bigelow, Cleveland National Forest Fax: 858-673-6192

T2526

SALINAN NATION CULTURAL PRESERVATION ASSOCIATION

Jose' Freeman, President: josefree@ccio1.com Gregg Castro, Secretary/Treasurer: gcastro@pacbell.net

August 10, 2004

To: National Park Service, Region 5 - Forest Planning Guide Revision Team,
Ron Pugh, Program Leader;

These comments are in regards to the Southern California Land Management Plan Revisions that are currently open for public review by the National Forest Service (NFS).

We represent one of a number of Salinan communities indigenous to central coastal California. Our community is based locally and has worked closely for a decade with Los Padres National Forest (LPNF) personnel in the protection and understanding of the vast collection of Salinan heritage sites in the Monterey District. We are actively involved in the field as well as with planning such as this. We will continue to collaborate in the ongoing management of the irreplaceable heritage of our ancestors that this Plan seeks to preserve for future generations.

Comments regarding the planning process and techniques:

It is our recommendation that changes be made to the planning process itself. There are no tools within the planning process that adequately address cultural resources on Forest land. There are designations for environmental and biological issues to be addressed but not for cultural resources. The available designations that are forced into use are indistinct, ambiguous and far less effective categories that do not meet the needs of cultural protection. This then requires use of vague "overlay" designations, such as "Special Interest Area", that must then be massaged into covering the special issues involved in cultural protection. This is done only with a great deal of effort and only minimally covers the issues. Devising appropriate designations for cultural sites will direct the NFS more forcefully in its protection responsibilities for cultural heritage and greatly ease planning as well as ongoing management of these resources.

Comments regarding the Management Plan alternatives as a whole:

We concur with comments made by the indigenous people at the Native American consultation meeting, held on the Santa Ynez reservation in May 2004. Generally, the comments highlighted the negative consequences of nearly all the alternatives as proposed. In particular, advocating management practices to increase visitation while acknowledging inadequate resources to deal with current usage, much less increased visitation, is incomprehensible and poor planning.

NFS is charged with the protection of all the resources under its jurisdiction. These include biological, environmental, historical and cultural resources that are irreplaceable. The last decade has shown a serious decline in personnel, materials and funds that are needed to deal with the already increasing visitor access to Forest land. Of late, the budgetary constraints have greatly worsened an already bad situation. We have recently seen increased harm to a number of cultural sites within the Monterey District. Over time, this has inevitably led to damaging affects on the cultural legacy of the Salinan people as well as other Forest assets.

The action alternatives presented in the plan revisions all lead to the encouragement of more people coming to the Forest. This is not balanced by an adequate examination and proposal for measures to mitigate the adverse affects of the increased visits. As expressed by our community for a number of years, and by all the participants in the Native American consultation meeting, the National Forest Service can not adequately handle the current situation they face. There is nothing, within this plan nor in our other interactions with NFS, which indicate the situation will improve anytime in the near future. The action alternatives will only make it worse.

T2526

Comments specific to alternatives as they impact Los Padres National Forest:

Given the above caveats and the weaknesses of the proposed alternatives, we reluctantly and conditionally recommend Alternative 2. It is the least likely of the proposals to have a negative impact upon Salinan cultural resources in the Los Padres National Forest, Monterey District. Maintaining diversity of biological and ecological resources while preserving cultural resources is the most appropriate management direction for future generations. Our Salinan community believes that the biological/ecological system in Los Padres is an integral and inseparable part of the cultural landscape that makes up our homeland. To understand and appreciate it, the full scope of our homeland must be researched, maintained and protected intact.

SNCPA is strongly opposed to the Forest Plan Revision's preferred Alternative #4. The emphasis on increased recreational opportunities is precisely the wrong direction for Forest management, given the lack of resources to manage with. As stated previously, it is irresponsible to advocate more people visiting more sensitive areas while cutting back on staff to supervise them. It does not occur at even a minimally acceptable level at the present time. This alternative will inevitably lead to the deterioration of the Forest system. We can't afford to let that happen.

Comments regarding proposed 'Special Interest Area' within Los Padres (Alternative 2):

Sta'yokale/Santa Lucia Peak should be part of the Milpitas Special Interest Area.

SNCPA is greatly pleased that this latest version of the Plan recognizes the unique and sensitive significance of our cultural sites within the Monterey District that have been given the designation of "Milpitas Special Interest Area" (MSIA). For years we have been actively engaged, both within our own community and with LPNF staff, in protecting and preserving this precious heritage of our people. We have long advocated its recognition, not as a set of separate, distinct sites, but a large integrated complex of places that constitute one site.

More specifically, we would like to see the MSIA designated as a "Back Country - Non Motorized" zone in recognition of the sensitivity of the cultural sites within it and in light of the increased damage to those sites now being seen as a result of easy access by motorized vehicles.

We believe that this area is one integral site because of its relationship to one of our most sacred sites: *Sta'yokale*.

Known to the European newcomers as 'Santa Lucia Peak' (and later as Junipero Serra Peak), *Sta'yokale* is the center of our world, from which all that we now see was formed. Our stories, traditions and culture reinforce its primary importance to the Salinan People. Numerous anthropological studies, including those by Los Padres staff, support its significance in the spiritual and social world of the Salinans. It also has great historic importance. It meets the criteria for inclusion on the National Register of Historic Places and is considered an historically important place by the state of California as well.

Given the above, it is a glaring omission that *Sta'yokale* is not part of the MSIA. There can not be a true understanding, and therefore adequate protection can not be given, without seeing these sites in the context by which they exist. The mountain gave birth to these places and is inseparable from them. The MSIA'S very being and meaning is formed by its place at the foot of *Sta'yokale*. Federal legislation has recently acknowledged the value and importance of *Sta'yokale* by extending Wilderness designation to it. This Plan should do likewise and include this sacred mountain of the Salinan People within the Milpitas Special Interest Area.

Sincerely,
Gregg Castro,
For SNCPA

T2582

T2582

SALINAN NATION CULTURAL PRESERVATION ASSOCIATION
 Jose' Freeman, President: josefree@ccio1.com Gregg Castro, Secretary/Treasurer: gcastro@pacbell.net

August 10, 2004

To: National Park Service, Region 5 - Forest Planning Guide Revision Team,
Ron Pugh, Program Leader;

These comments are in regards to the Southern California Land Management Plan Revisions that are currently open for public review by the National Forest Service (NFS).

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Sincerely,
Gregg Castro,
For SNCPA

VIEJAS

TRIBAL GOVERNMENT

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#1 Viejas Grade Road
Alpine, CA 91901

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Bobby L. Barrett, Vice Chairman
Diana L. Aguilar, Tribal Secretary
John A. Christman, Tribal Treasurer
Virginia M. Christman, Councilwoman
Drucilla L. Espinoza, Councilwoman
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Phone: 6194453810
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viejas.com

August 10, 2004

USDA Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, UT 84122

SENT VIA FAX:
801-517-1015

RE: Request for 60-day Extension to Comment on Draft EIS and Draft Management Plans for the Four Southern California National Forests.

Dear Sir or Madam:

The Viejas Band of Kumeyaay Indians (hereinafter "Tribe") is a federally-recognized Indian Tribe as evidenced by current listing in the Federal Register at Vol. 68, No. 234, p. 68180; as the Viejas (Baron Long) Group of Capitan Grande Band of Mission Indians of the Viejas Reservation, California. The Viejas Band is a self-governing tribe exercising sovereign authority over the Viejas Indian Reservation, located on the eastern edge of Viejas Mountain and surrounded on three sides by Forest Service lands. The Viejas Band also shares joint ownership (with the Barona Band) of the Capitan Grand Indian Reservation located to the north of the Viejas Reservation.

The Viejas Band previously submitted comments on the Forest Service Plan Update on April 1, 2002. A copy of those comments is attached for your information.

At this time, the Viejas Band is actively engaged in the development of a land use master plan. Tom Gillett, Head Ranger, Descanso Ranger Station, and Bernice Bigelow, Resource & Land Management Planning Staff Officer, and

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their staff provided the Viejas Band with a presentation of the EIS and Draft Management Plans for the Four Southern California National Forests on July 14, 2004. On July 27, 2004, the Viejas Tribal Council reviewed the staff report prepared from the July 14, 2004 meeting and referred information to a special ad-hoc committee for further review.

Due to the technical nature of the information as well as a need to review other concurrent planning process underway by the County of San Diego, US Fish and Wildlife Service, California Department of Highways, San Diego Association of Governments, and two Multiple Species Conservation Planning efforts that impact both the Viejas and Capitan Grande Reservations, the Viejas Band requires an additional 60 days to prepare comments on the EIS and Draft Management Plans for the Four Southern California National Forests.

Should you have any comments on this issue, please contact Lisa Haws, Community Development Program Manager, at (619) 659-2341. Thank you.

Sincerely,



Anthony R. Pico, Chairman
Viejas Tribal Council
Viejas Band of Kumeyaay Indians

cc: Tom Gillett, Descanso Ranger Station Fax: 619-445-1753
Bernice Bigelow, Cleveland National Forest Fax: 858-673-6192

2

VIEJAS

TRIBAL GOVERNMENT

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John A. Christman, Tribal Treasurer
Virginia M. Christman, Councilwoman
Mabel M. Velasquez, Councilwoman
Alan L. Barrett, Councilman

April 1, 2002

Mr. Skip Willis
Public Affairs Officer
Forest Plan Update - Cleveland National Forest
10845 Bernardo Drive, Suite 200
San Diego, CA 92127-2107

RE: Comments on the Forest Plan Update

Dear Mr. Willis:

The Viejas Band of Kumeyaay Indians (hereinafter "Viejas Band") is a federally recognized Indian Tribe as evidenced by current listing in the Federal Register at Vol. 62, No. 205, p. 5527 as the Viejas (Baron Long) Group of Capitan Grande Band of Mission Indians of the Viejas Reservation, California. The Viejas Band is a self-governing tribe exercising sovereign authority over the Viejas Indian Reservation, located on the eastern edge of Viejas Mountain. The Viejas Band also shares joint ownership (with the Barona Band) of the Capitan Grand Indian Reservation located to the north of Viejas Mountain.

The Viejas Band is aware that the Descanso Ranger District, Cleveland National Forest (CNF), is proposing to designate Viejas Mountain as Research Natural Area (RNA).¹ In response to this proposal, the Viejas Band submits the following comments concerning the protection of natural and cultural resources on Viejas Mountain and the preservation of access rights for the Viejas Band to

¹ See: Notice of Intent Proposed Action Southern California National Forest Angeles, Cleveland, Los Padres, San Bernardino, October 16, 2001; Notice of Proposed Designation of Viejas Mountain as a Research Natural Area (RNA), October 29, 2001; and, Notice of Extension to Comment until March 31, 2001.

Viejas Band's Comments on Forest Plan Update
March 29, 2002 / Page 1 of 4

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the Capitan Grand Indian Reservation through the Cleveland National Forest from the Viejas Reservation.

Protection of Natural and Cultural Resources on Viejas Mountain

The proposed Research Natural Area (RNA) designation, as defined in the Notice of Intent Proposed Action, emphasizes the need, "to form a long-term network of ecological reserves designated for non-manipulative research, education and the maintenance of biodiversity". In the October 29, 2001 letter to the Viejas Band, the proposed RNA designation is described as, "protecting natural features, while continuing to allow access". The letter goes on to justify the RNA designation for, "the unique chamise chaparral, the sensitive plants, and the sensitive archeological sites".² However, the RNA as defined does not include the protection of cultural resources. It is the position of the Viejas Band that the protection of cultural resources is as important as the protection of ecological resources.

The Viejas Band supports U.S. Forest Service recognition of the important natural features and ecological resources on Viejas Mountain and requests additional protection of the mountain based on cultural and historical importance under an expanded definition of the RNA or an alternative designation. The Viejas Band would support a plan that defines an appropriate level of public access while protecting the limited resources in the area for future generations. Finally, the Viejas Band reserves the right of access to the area by Viejas tribal members for spiritual or cultural purposes and for gathering of ethno botanical resources without interruption.

Viejas Mountain is an important ecological resource, as well as a cultural and historical resource for the Viejas Band. The importance of Viejas Mountain to the Band stems from the Band's land tenure history. As early as 1700s, Spanish soldiers searched the valley for native workers. Finding only old women living in caves, the soldiers named the place, Viejas Valley, "Valle de las Viejas," or "Valley of the Old Women". Since these first encounters with the Spanish, the territory held by the Kumeyaay people has been significantly diminished. Sacred sites such as Viejas Mountain were taken from the Kumeyaay and the people were eventually confined to small reservations, which represent just a fraction of the Kumeyaay's former home.

In the late nineteenth century, the Kumeyaay of Viejas Indian Reservation were originally relegated to the Capitan Grande Indian Reservation, frequently referred to as the "old" reservation. The Capitan Grande Indian Reservation was to be the permanent home of this group of Diegueno or Mission Indians, comprised of the ancestors of the current Viejas and Barona Bands of Kumeyaay Indians.

This permanent home did not last. As the non-Indian populations grew throughout the County of San Diego, demand for water increased. In the early 1930s, the most valuable part of the Capitan Grande Reservation was forcibly sold

² Ibid.

Viejas Band's Comments on Forest Plan Update
March 29, 2002 / Page 2 of 4

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to the City of San Diego, requiring the inhabitants to find new homes. The heart of the Capitan Grande Reservation is now the site of the El Capitan Reservoir.

With the proceeds of the sale, the Bands bought new home sites including the former Baron Long Ranch in the Viejas Valley. This site became the Viejas Indian Reservation. When the Band moved to Viejas Valley in 1935, they changed their name to reflect their new home. The Viejas and Barona Bands remain the joint beneficial owners of the 16,000-acre Capitan Grande Indian Reservation.

Thus the Viejas Band and their ancestors have long lived in the shadow of Viejas Mountain. Not surprisingly, the mountain is a significant spiritual site to the Kumeyaay. The significance is supported by the Viejas Band's oral traditions. For example, a Viejas tribal elder who was also an original inhabitant of the Capitan Grande Reservation has designated Viejas Mountain as an important spiritual place.

Other sources also document the cultural importance of the mountain to the Kumeyaay Indians. Mary Elizabeth Johnson, in Indian Legends of the Cuyamaca Mountains, details the legend of the Kumeyaay annual pilgrimage to the top of Viejas Mountain. Anthropology records located at the San Diego Museum of Man and the South Coastal Information Center support this legend. Jerry Schad, in Afoot and Afield in San Diego County, describes the destruction of important archeological resources on the mountain by campers:

"Years ago there existed on the summit of Viejas Mountain an arrangement of stones interpreted by local anthropologists to be a winter solstice marker, used for ceremonial purposes by the Indians. The marker was a T-shaped array of stones that pointed precisely to a small peak on the southeastern horizon about 16 miles away. At winter solstice (December 21) the sun comes up directly behind this peak. On topographic maps, this peak is identified as: "Buckman", elevation 4641 feet, located south of Pine Valley. Unfortunately the marker was thoughtlessly destroyed by campers in the mid-1970's. In its place is a wall of stones evidently built as a windbreak."³

Preservation of Access to the Capitan Grande Reservation

The nearly 16,000 acres of the Capitan Grande Indian Reservation are mountainous and remain undeveloped. Viejas tribal members continue to use the land for fishing, hunting, spiritual purposes, and to maintain historic village sites and cemeteries. To gain access from the Viejas Reservation for these purposes, tribal members must use four-wheel-drive vehicles and pass through a locked gate, which was installed to prevent the theft of grinding stones, arrowheads, and other artifacts. The right of the Viejas Band to access the Capitan Grande Reservation was established through Executive Orders and Acts of Congress. The

³ Page 85-86.

T2633


Viejas Band reserves the right of access through the Cleveland National Forest to the Capitan Grande Reservation without interruption.

The Viejas Band has been working closely with the Descanso District Ranger and law enforcement officials to stop the trespassing and destruction of trust land adjacent to the Anderson Truck Trail. While our joint efforts have had some impact, mountain bikers continue to cross U.S. Forest land to enter the trust land. Some of these trespassers have cut large trails through the brush with chain saws. Thus, the Viejas Band requests that the Forest Plan Update incorporate mitigation efforts to restrict access to portions of the Anderson Truck Trail that cross the boundaries of the Capitan Grande Reservation. Such restricted access is necessary to protect tribal lands from trespasser impacts.

Conclusion

The Viejas Band anticipates continuing the positive relationship established with the Descanso Ranger District, Cleveland National Forest, to preserve the natural environment and cultural resources of Viejas Mountain and to preserve access to this area that is critically important for tribal members. For additional information regarding the Viejas Band, these comments or further information, please contact Lisa Haws, Manager, Special Projects at (619) 659-2280. Thank you for your attention to these issues.

Sincerely,



Bobby L. Barrett, Vice Chairman
Viejas Tribal Council
Viejas Band of Kumeyaay Indians

T2634

August 10, 2004

Southern California Forest Plan Revisions
Attn: San Bernardino National Forest
USDA Forest Service Content Analysis Center
PO Box 22777
Salt Lake City, UT 84122

MORONGO
BAND OF
MISSION
INDIANS



Re: Southern California Land Management Plan

Dear Forest Service Professional:

The Morongo Band of Mission Indians ("Tribe") thanks the Forest Service for providing the Tribe with copies of the proposed Southern California Land Management Plan ("Plan"). The Tribe has attended at least three meetings, with the most recent being held in San Bernardino on July 29th. Ms. Deveree Kopp, of the San Bernardino National Forest, Big Bear Office, facilitated the meeting and arranged for several archaeologists to be present. We are very grateful to Ms. Kopp and the rest of the Forest Service staff for the time they spent with the Tribe's representatives.

The Tribe's primary concern regarding the Plan revolves around the cultural resources within the national forest lands and how they are treated in the Plan. The Tribe, along with two other tribes present at the July 29th meeting, provided some suggested language revisions to the Plan that would protect cultural resources by removing certain details which might have led to pot-hunting or other destructive activities. Ms. Kopp recorded in writing those concerns at the meeting.

With the Plan being general in nature, it is difficult for the Tribe to further respond on any specific cultural resource issues; however, the Tribe is concerned over allowing access/continued access to Native American cultural resource sites. Some proposals within the Plan call for creating wilderness areas which, in the context of cultural resources, could provide protection for those resources. On the other hand, the creation of a wilderness area may preclude Native Americans – particularly elders – from visiting the sites, some of which may be considered sacred. Specific provision needs to be made in the Plan for access by Native Americans.

The Tribe requests that the Forest Service insure Native American access when considering wilderness designations in certain areas. The Forest Service and BLM recently (October 2003) published a Proposed Management Plan and Final Environmental Impact Statement for the Santa Rosa and San Jacinto Mountains National Monument and that plan addressed Native American access – although not necessarily in the context of wilderness area (see pps 2-14 and 2-15 in the Santa Rosa Plan). That may be a model to consider in preparing this Plan.

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Southern California Land Management Plan
Page 2

The Tribe also noted that several "Back-Country Motorized" areas were shown adjacent to, and north of, the Morongo Indian Reservation ("Reservation"). Access would presumably be required through the Reservation to those sites, but such public access is not available. For example, the Back-Country Motorized areas shown off of Millard Canyon are not accessible to the public from the South through the Reservation. Although now owned almost entirely by the Tribe, the land in Millard Canyon was previously privately owned, fee-simple land with a single access, dirt road providing access to forest service land holdings.

Our research indicates that the Forest Service has a right-of-way solely for maintenance purposes on the single access dirt road serving Millard Canyon. That means that the public does not have an access route through Millard Canyon to access forest service lands. A similar situation exists in Potrero Canyon where the access road is not a public road, thereby precluding the public access to lands north of the Reservation in Potrero Canyon.

Because of this lack of access, the Back-Country Motorized sections of forest service land adjacent to the Morongo Indian Reservation should be deleted from the Plan. Including them in the Plan would be an invitation to members of the Public to trespass on the Reservation and the Tribe's lands in areas not open to or accessible by the public.

Thank you for considering these comments by the Tribe regarding the proposed Plan. If you require additional information, please contact me at (951) 755-5200.

Sincerely,

Britt W. Wilson
Project Manager
Morongo Planning & Economic Development Department

c: Tribal Council, Morongo Band of Mission Indians
Ernest H. Siva, Tribal Historian & Cultural Advisor, MBMI
Allen J. Parker, CAO, MBMI
Thomas E. Linton, Director, Dept. of Planning & Econ. Dev., MBMI

T2647

San Manuel Band of Mission Indians
Environmental Department

August 10, 2004

Southern California Forest Plan Revisions
San Bernardino National Forest
USDA Forest Service Content Analysis Center
PO Box 22777
Salt Lake City, UT 84122

RE: Southern California Land Management Plan

Forest Service Management:

The San Manuel Band of Mission Indians ("Tribe") appreciates the coordination efforts of the Tribal consultation meetings and the distribution of material for the Southern California Draft Land Management Plan ("Plan"), provided by the San Bernardino National Forest Service. The Tribe attended several meetings, lead by the Ms. Deveree Kopp, facilitator and various Forest Service archeologists.

The primary objectives of these meetings were to review and comment on the Heritage Resource sections of Parts 1, 2 and 3 of the Draft Forest Plan using Section III.

- Part 1. Southern California National Forests Vision - Under Management Challenges the sections: Urbanization, Special Forest Products and Heritage, will be defined with revisions to some suggested language in this section. Ms. Deveree Kopp documented these language revisions at these meetings.
- Part 2. San Bernardino National Forest Strategy Suitable Land Uses – In this section, some suggested language revisions should be considered. Especially, Under the Strategic Program Emphasis and Objectives, Program Strategies and Tactics and Place Based Program Emphasis, the current language provides detailed information of the areas that are considered Culturally Sensitive/Sacred to the Tribe. By removing the details of the area, this would aid in the protection of cultural material not being removed or other destructive means. Ms. Deveree Kopp documented these language revisions at these meetings.
- Part 3. Design Criteria for the Southern California National Forests – Under the section Cultural and Historic Standards, treatment options are to include excavation and rebuilding of structure with like materials or original.
- The Special Interest Areas were reviewed based on Alternative 4 Land-Use Zones. Revision of the language and the detailed information were deleted for Deep Creek, Cajon Pass, Upper Santa River, Arrastre Creek, Siberia Creek and Cactus Flats.

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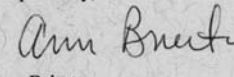
AUG 16 2004

26569 Community Center Drive • Highland, CA 92346 • Office: (909) 864-8933 • FAX: (909) 862-5152
P.O. Box 266 • Patton, CA 92369

- T2647
- The Research Natural Areas were reviewed based on Alternative 4 Land-Use Zones. Revision of the language and the detailed information were deleted for Cleghorn, Wildhorse, Arrastre Creek and Broom Flat.
 - Based on Alternative 6 Land-Use Zones, the areas of existing wilderness were reviewed. It is recommended that some of the wilderness areas not be changed, however the areas the Tribe designates as Serrano Ancestral Land should not be considered as wilderness. These Culturally/Sensitive areas would prevent the Tribal members and their elders from accessing these sites, in which these sites are considered sacred.
 - According to Alternative 4 Land-Use Zones, areas designated, as "Back Country, Motorized" will allow access to the Culturally/Sensitive sites, especially in the Deep Creek/Arrowhead, Baldwin Lake/Holcomb Valley and Cajon areas.

The Tribe encourages the opportunity to continue the government-to-government relationship that exists with the San Bernardino National Forest personnel. I thank you for considering these comments, should you have any questions please do not hesitate to contact me at (909) 864.8933 ext 2203.

Respectfully,



Ann Brierty
GIS Coordinator
Environmental Department

cc: Ali Kashani, Environmental Manager



Forest Plan Revision
Angeles, Cleveland, Los Padres, and San Bernardino
 Public Review of Draft Plans and DEIS
 Spring/Summer 2004
Comment Form

T3180

Remember --- you can submit your comments on-line at www.fs.fed.us/r5/scfpr/!

Date: August 11, 2004

Name: Carmen Mojado for the San Luis Rey Band of Mission Indians

Are you submitting comments as an official representative of an agency or organization? If so, please include your title and the name of organization or agency you represent:

Co-Chair/Sec. of The San Luis Rey Band of Mission Indians

Mailing Address: 1889 Sunset Dr. Vista, CA 92081

Phone Number/E-Mail Address (optional): 760-724-8505 Fax 760-724-2172

My comments apply to:

- Angeles National Forest
- Cleveland National Forest
- Los Padres National Forest
- San Bernardino National Forest

(Please be as specific as possible with your comments. If applicable, indicate where your comment applies: document, section, page number, map location, etc.)

1. Save the native plants and trees.
2. DO Not increase the activities or trails - limit uses during high risk times of drought.
3. We preferred alternative 2 for the Cleveland National Forest.

(continue comments on reverse)

Please mail your comments to: **Southern California Forest Plan Revisions
 USDA Forest Service Content Analysis Center
 P.O. Box 22777
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Comments Must Be Postmarked by August 11, 2004

San Manuel Band of Mission Indians T3181
Environmental Department

August 11, 2004

Southern California Forest Plan Revisions
 San Bernardino National Forest
 USDA Forest Service Content Analysis Center
 P.O. Box 22777
 Salt Lake City, UT 84122

RE: **Comment on Draft Environmental Impact Statement (DEIS) and Alternatives for Land Uses and Management of San Bernardino National Forest Lands Adjacent to the San Manuel Indian Reservation**

We have reviewed the DEIS and the Alternatives, as well as the criteria used for decision-making. **The issue we have most of the Alternatives (#1, #2, #4, #5, and possibly #3) is the designation of the area surrounding the Reservation as open to Back country, motorized vehicle use.** Alternative #3 designates a portion as non-motorized, but only Alternative #6 meets our needs by **setting aside all of the land at the upper end of our sub-watersheds (primarily our Sand Creek) for non-motorized (Back Country, non-motorized) use.** We are not choosing any specific Alternative over another, since the area of concern for us is a very small portion of the overall plan. We believe that an adjustment could be made to exclude the sub-watersheds immediately north of the Reservation from the motorized use areas.

With all due respect to those enthusiasts who would be responsible and take care to be protective, we have already experienced the degradation inherent in carelessness or accidental off-road motorized vehicle use here on the Reservation, and have limited the use of those vehicles by area. It would of course be nearly impossible for the Forest Service to police the use of these vehicles in the area of concern to us. It would also be counter-productive to create the designated areas for use on Forest Land, since degradation would be inherent in the construction efforts.

Any management plan that includes the following would best meet the Reservation needs:

1. Stops degradation from recreational uses such as off-road motorized vehicle use
2. Manages vegetative cover to slow erosion and regulate water delivery
3. Creates an environment that allows native vegetation to re-establish, and
4. Allows re-stabilization of stream corridors

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T3181

The statement in Alternative 6 of the DEIS regarding watersheds (p 2-11) best explains our goals for land use both on and off the Reservation:

"Watersheds: A strong emphasis is on the prevention of watershed degradation. Three key goals to protect remaining high quality areas, prevent further degradation of any area of the forests, and, over time, restore the ecological condition and function of the watersheds: A high priority is the improvement of water quality and the maintenance or increase of water quantity to support threatened, endangered, proposed, candidate or sensitive (TEPCS) species and overall ecosystem health."

We thank you for the opportunity to communicate our concerns, look forward to your responses, and are optimistic and excited about the Forest Service's continued efforts to improve our National Forests.

Sincerely,

Vera Williams
Vera L. Williams
Environmental Scientist
San Manuel Band of Mission Indians

T762

DEPARTMENT OF TRANSPORTATION

DISTRICT 12
3337 MICHELSON DRIVE SUITE 380
IRVINE, CA 92612-8894
PHONE (949) 724-2255
FAX (949) 724-2592
TTY (949) 756-7813



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June 30, 2004

Mr. Ronald Pugh
Southern California Forest Plan Revisions
USDA Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, UT 84122

File: IGR/CEQA
SCH#: N/A
Log #: 1400
SR: 74, 241, I-5

Subject: California Forest Service Plans: Southern California Land Management Plan Revisions FEIS – Cleveland National Forest Strategy

Dear Mr. Pugh,

Thank you for the opportunity to review and comment on the FEIS received May 10, 2004, for the **Southern California Land Management Plan Revisions** project. The project portion in our District is located in the Cleveland National Forest which primarily abuts State Route 74 Ortega Highway between Riverside and Orange Counties, but also has implications for Interstate 5 and State Route 241 the Foothill Tollroad along with its proposed southern extension. The project area currently has access to a small segment of the northern portion of San Mateo Place from Ortega Highway and limited public access to Elsinore Place from Ortega Highway and State Route 15 in Riverside due to the rapid urbanization adjacent to the Forest. Significant issues identified in the Plan:

- Public Values and Uses (Use and Enjoyment, Facility Operation and Maintenance)
- Ecosystem Elements and Function (Resource Management)
- Commodity Values and Uses (Commercial Uses, Facility Operation and Maintenance)
- Urban Development and Forest Habitat Linkages (Resource Management, Commercial Uses, Fire)
- Special Area Designations (Public Use and Enjoyment, Resource Management)
- Alternative 2 is identified as the preferred alternative for Cleveland National Forest.

Nexus with the Department of Transportation (Caltrans) District 12:

- Forest Service Place Based Program Emphasis - "coordinate planning for access" with other agencies. 1) Elsinore Place - Land Use in Riverside and Orange Counties adjacent to the Cleveland Forest. Public access limitations as a result of development (CNF Strategy 41); 2) Silverado Place - participation in the E/W Corridor planning process and 3) San Mateo Place – one of few riparian streams left in Southern California – is a designated Wilderness, Chiquito Springs is a proposed Wilderness.

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Caltrans District 12 is a responsible agency on this project and has the following comments at this time:

1. Any access modification from the Cleveland National Forest to State Route 74 Ortega Highway should be coordinated with Caltrans District 12, the Traffic Operations, Environmental Planning and Design units in particular.
2. SR-74 (Ortega Highway) operates under an easement from the USFS. It is important to note that the portion of SR-74 that crosses through the Cleveland National Forest is not a designated scenic highway. Which conditions of the LMP apply to Ortega Highway for road construction and maintenance activities as an existing road? Clarification is requested on how the proposed Draft Land Management Plan guidelines for "roads and trails" apply to SR-74.
3. Caltrans Maintenance currently is restricted from clearing/grubbing/vegetation clearing along Ortega Highway during the nesting season. Will this restrictive policy continue with implementation of the revised LMP? Please specify if any conditions of the revised LMP apply to herbicide/pesticide use restrictions along SR-74, within the State Right of Way.
4. Would Caltrans operations along SR-74 be subject to USFS Biological Opinion conditions on the Effects of Ongoing Forest Activities that May Affect Listed Riparian Species on the Southern California Province National Forests, California, or Interim Management Direction and Conservation Measures (1-6-00-F-773.2) for proposed projects?
5. Clarification is requested how Biological Assessment/Biological Evaluation requirements adhere to conditions of the Land Management Plan? Do conditions of the BA/BE or LMP apply to Caltrans operations along SR-74?
6. Clarification is requested of the distance of a buffer area, for riparian zones, under management guidelines? Does the USFS have specific guidelines for impacts to oak/oak woodlands or riparian areas and/or replacement ratios, for Caltrans impacts to areas along SR-74, within the CNF boundaries?

Please continue to keep us informed of this project and other future developments, which could potentially impact our transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Maureen El Harake at (949) 724-2086.

Sincerely,


 Robert Joseph, Chief
 IGR/Community Planning Branch

- c: Terry Pencovic, HQ IGR/CEQA
 Praveen Gupta, Environmental Planning A
 Raouf Moussa, Traffic Operations South
 Mili Lim, Design Branch A

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DEPARTMENT OF TRANSPORTATION

Division of Environmental Planning
 120 SPRING STREET
 LOS ANGELES, CA 90012
 PHONE (213) 897-0703
 FAX (213) 897-0685

T7610



August 3, 2004

Southern California Forest Plan Revisions
 Angeles National Forest and Los Padres National Forest
 USDA Forest Service Content Analysis Center
 P.O. Box 22777
 Salt Lake City, UT 84122

This letter is in response to Draft Environmental Impact Statement for Revised Land Management Plans for the Angeles and Los Padres National Forest. The California Department of Transportation has reviewed the document and has the following comments:

1. How will the preliminary designation of the Wild and Scenic Rivers affect interim management until designation has become official?
2. Will Species at Risk identified as Forest Sensitive species need to be evaluated within BA/BE?
3. How will the Administrative Management Plan be amended to reflect prioritizing and reviewing proposed state transportation projects? For instance, there is a need for disposal sites along State Routes 2 and 39. Caltrans would like to obtain easements adjacent to state highways to be able to have designated disposal sites for excess erosion and other material. Disposal sites approval should be of high priority in this management plan. Page 3-139 second paragraph states each time a road is re-graded for maintenance, the soil is disturbed and perched on the roadside as berms resulting in an increased potential for erosion and sedimentation into nearby streams. As suggested on Page 3-152, these sediment placement sites should be of high priority to the Forest Management Plan revisions. This would alleviate and avoid impacts to nearby streams. In addition, the need to expedite and review proposed projects in regards to minor projects and maintenance work should be reviewed by the Land Management Plan. The Draft EIS should include a discussion on prioritizing and funding proposed projects and review time for reviewing proposed state transportation projects.
4. The Draft Environmental Impact Statement for the Revised Land Management Plans for the Angeles and Los Padres National Forest indicates responsibility and legal jurisdiction to the State of California Department of Transportation for state highways within forest land. Currently Caltrans does not have the appropriate documentation to assume this responsibility. For instance State Route 39 is under several different special use permits as well as State Route 2. Any modifications to these transportation facilities require the designated District Ranger to review and approve the modifications.
5. The responsibility of the application of the fire retardant along state highways would be cooperative jurisdiction in areas of high recreational use. How will this impact Caltrans routine maintenance activities? Will this require extra maintenance staff in order to implement such activities?
6. Closures during extreme weather/forest fire fighter shall have to be coordinated with the department.
7. Scenic resource responsibility, how does it affect the review process for a project?

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8. Watershed improvements should not increase scour at Caltrans facilities. Should watershed improvements end up affecting our facilities, coordination will be necessary.
9. Proposed parking locations will need to be discussed with Caltrans in order to adhere with safety and design standards.
10. What will be the requirements for the eradication of weeds/invasive species adjacent to State Routes within the Forest Service?
11. What additional review requirements will be necessary for projects occurring along USFS designated Scenic Byways.
12. What survey protocols for new species "at risk" will be required?
13. What will be required with respect to roadway surveys for endangered plant species?
14. Caltrans should be notified of reintroduction of TEPCS species efforts in areas adjacent to State Highway Facilities. Hopefully cooperation between the two agencies would help avoid any potential impacts on such efforts that routine maintenance or other planned projects might have.
15. Chapter 3-Affected Environment and Environmental Consequences Page 3-63 indicates that several studies are being conducted in order to better understand large mammal wildlife movement within the Forests. Specific locations of at risk linkages should be identified within the Management Plan in order to evaluate each alternative with respect to wildlife movement and proposed uses for specific corridor locations. Since the data is still being collected, specific information is probably not available, but a general description of wildlife movement corridors should be included in the discussion.

If you have any questions please contact me at (213)897-0610 or my staff at (213) 897-8081 (e-mail: Amy_Pettler@dot.ca.gov).

Sincerely,

Paul Caron
Office Chief of Mountain Area Projects and Biological Services
Caltrans, Division of Environmental Planning

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Assembly California Legislature



RAYMOND N. HAYNES
ASSEMBLY MEMBER, SIXTY-SIXTH DISTRICT

August 5, 2004

T1623

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Southern California Forest Plan Revisions
United States Department of Agriculture
Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, Utah 84122

Subject: Land Management Plan Update – Cleveland National Forest

Dear Forest Plan Manager:

I am aware that the Elsinore Valley Municipal Water District (EVMWD) is now seeking federal authorization through the Federal Energy Regulatory Commission (FERC) to construct an advanced pumped storage hydroelectric project located within the CNF. As I review your agency's planning documents, it is apparent that the preliminary forest plan would either prevent or seriously hinder EVMWD's ability to advance that project and would appear to usurp FERC's authority to independently evaluate the merits of that project.

The 1986 Forest Plan appears to embrace opportunities for new hydropower development. In contrast, the current preliminary forest plan contains virtually no references to, or policy support for, the development of renewable energy resources, such as hydropower, within the CNF. In light of increasing gasoline prices, diminishing fuel resources, continuing reliance on non-domestic supplies, and a growing population, the USFS should consider including a program-level plan, creating a framework for these types of projects, while allowing project-level decision making on the individual merits and impacts of each project.

Under the National Environmental Policy Act (NEPA), the focus of environmental review is on the "human environment." Under NEPA, the USFS must examine how the proposed action will serve to achieve the federally mandated balance between population and resource use. A plan that prematurely eliminates or hinders the use of federal lands for renewable resource utilization is clearly one that is ineffective in achieving that balance.

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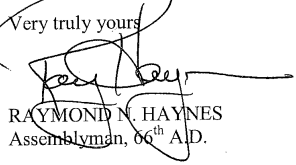
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USDA Forest Service Content Analysis Center
Land Management Plan Update - Cleveland National Forest
August 5 2004
Page 2

T1623

No one should rush to a verdict with regards to the merits of any project before all the evidence can be assembled and presented.

I encourage the Forest Service to reject the "preferred alternative" and to formulate a final forest plan that would not prematurely restrict the ability of the EVMWD to develop its two energy projects (Lake Elsinore Advanced Pumped Storage (LEAPS) and Talega-Escondido/Valley-Serrano 500-kilovolt Interconnect) in the manner and location now proposed.

Very truly yours

RAYMOND N. HAYNES
Assemblyman, 66th A.D.

cc: Jack Blackwell, Regional Forester
United States Department of Agriculture – United States Forest Service
Pacific Southwest Region, 1323 Club Drive, Vallejo, California 94592

Rob MacWhorter, Interim Forest Supervisor
United States Department of Agriculture – United States Forest Service
Cleveland National Forest, 10845 Rancho Bernardo Road, Suite 200
San Diego, California 92127-2107

Keith Fletcher, District Ranger
United States Department of Agriculture – United States Forest Service
Trabuco Ranger District, 1147 East Sixth Street, Corona, California 92879

Ronald Young, General Manager
Elsinore Valley Municipal Water District
P.O. Box 3000, Lake Elsinore, California 92531-3000

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T1625
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August 5, 2004

Southern California Forest Plan Revisions
United States Department of Agriculture
Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, Utah 84122

**Re: Lake Elsinore Advanced Pump Storage project – Cleveland National Forest,
Trabuco District**

Dear Forest Plan Manager:

This letter is to express my support for the Lake Elsinore Advanced Pump Storage (LEAPS) project as a part of the multiple use mission of this district of the Cleveland National Forest. Further, it will provide an additional 500 MW of peaking energy generation for distribution by the California Power Exchange and the California Independent System Operator.

I am supporting this project as part of the solution to several problems presenting my district and our state. First, it will provide the peaking power the state needs as an efficient pump/storage plant. Second, it will provide an economically viable way to assist in the stabilization and improvement of water quality in Lake Elsinore. Finally, I believe it has the potential to be a solution point, by utilizing National Forest lands and not private lands, to a proposal to further connect the Southern California and San Diego 500kv grid system.

I am supporting this plant, understanding that the public view of it will simply be a new 100-acre lake in one of two canyons atop the Santa Rosa Mountains, and a new "industrial" type building near the west side of the lake. This is because the water will flow through an apparatus tunneled more than 200 feet below the surface to penstocks inside modern, unremarkable buildings. I also understand that the issues of sediment

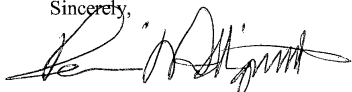
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disturbance and lake level fluctuations can either be rectified or mitigated to alleviate residents' concerns and further, that this project with the understanding that communities along the route will be insulated from impacts of this power line by not having it located on private land, by distance, and by geographic features blocking its view such as ridgelines, throughout its route on public lands.

I support this project as an appropriate and mitigable use of the Trabuco District, Cleveland National Forest.

Sincerely,



DENNIS HOLLINGSWORTH
Senator, 36th District

cc: Jack Blackwell, Regional Forester
United States Department of Agriculture – United States Forest Service
Pacific Southwest Region, 1323 Club Drive, Vallejo, California 94592

Rob MacWhorter, Interim Forest Supervisor
United States Department of Agriculture – United States Forest Service
Cleveland National Forest, 10845 Rancho Bernardo Road, Suite 200
San Diego, California 92127-2107

Keith Fletcher, District Ranger
United States Department of Agriculture – United States Forest Service
Trabuco Ranger District, 1147 East Sixth Street, Corona, California 92879

Ronald Young, General Manager
Elsinore Valley Municipal Water District
P.O. Box 3000, Lake Elsinore, California 92531-3000



California Regional Water Quality Control Board
Santa Ana Region

Terry Tamminen
Secretary for
Environmental
Protection

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August 10, 2004

Fax (801) 517-1015

Southern California Forest Plan Revisions
RE: San Bernardino and Cleveland National Forests
USDA Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, UT 84122

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT, SOUTHERN CALIFORNIA LAND MANAGEMENT PLAN REVISIONS

Staff of the California Regional Water Quality Control Board, Santa Ana Region, have the following comments with regard to the proposed fuel modification program in the San Bernardino and Cleveland National Forests. Note that actions taken in the Angeles National Forest (which abuts the western boundary of the Santa Ana Region) may have some effect on the Santa Ana Region.

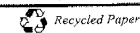
Comments on Part 1 (Vision)

- Many streams on National Forest lands currently do not meet State water quality standards, primarily because of excessive sediment and nutrient loading. No action is identified at this time for the improvement of water quality in Clean Water Act Section 303(d) listed (impaired) surface waters within the Forest, over and above the maintenance of existing water quality. We request that the Final EIS address all water bodies in the Forest that are on the 303(d) list, compliance with respective Total Maximum Daily Loads (TMDLs) for various constituents, and the development of new TMDLs.
- To determine stream conditions related to water quality, the EIS should list measures to be taken to monitor aquatic life and the condition of riparian habitat.

Comments on Part 2 (San Bernardino Forest Plan)

- We note that on the Special Designation Overlays, Wild and Scenic River designation is proposed for several inland surface waters that have recognized water quality beneficial uses as identified in the Santa Ana Region Water Quality Control Plan (Basin Plan). These streams include Bear Creek, Siberia Creek, Fish Creek, and Lytle Creek in the Santa Ana River watershed, and Bautista Creek and Fuller Mill Creek in the San Jacinto River watershed. If so designated, then it is stated that "Proposed new facilities, management actions, or uses on National Forest Land are not allowed if they have the potential to affect the eligibility or potential classification of the river segment." We are concerned that this policy will constrain any future Basin Plan changes that may be necessary to protect beneficial uses of these creeks.

California Environmental Protection Agency



T2158

USDA Forest Service

-2-

August 10, 2004

- The description of the Big Bear area does not mention that our agency and the California Department of Health Services is collaborating with the Forest Service and the Big Bear Area Regional Watershed Agency to treat wastewater to a level of quality that allows it to be returned to the Big Bear Valley Groundwater Subbasin.

Comments on Part 3 – Design Criteria

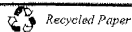
- Ground-disturbing activities should include remedial revegetation or other mitigations that reduce impacts to water quality standards. In particular, site-specific analyses should determine project sites where rates of natural revegetation will likely outcompete erosion and where it will not. We recommend that you add to your procedural criteria the standards in "Water Quality Management for Forest System Lands in California—Best Management Practices Handbook."

Thank you for the opportunity to comment.

Mark G. Adelson, Chief of Regional Basin Planning
Heather Boyd
Glenn Robertson

Santa Ana Regional Water Quality Control Board

California Environmental Protection Agency



T2234

SANTA CLARITA WATERSHED RECREATION AND CONSERVATION AUTHORITY

A PUBLIC ENTITY OF THE STATE OF CALIFORNIA EXERCISING JOINT POWERS OF THE CITY OF SANTA CLARITA AND THE SANTA MONICA MOUNTAINS CONSERVANCY PURSUANT TO GOVERNMENT CODE SECTION 6500 ET SEQ.

August 11, 2004

Southern California Forest Plan Revisions
Angeles National Forest
Forest Manager
USDA Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, Utah 84122

Comments on Angeles National Forest Land Management Plan and Draft Environmental Impact Statement

To Forest Manager:

The Santa Clarita Watershed Recreation and Conservation Authority (SCWRCA) offers the following comments on Angeles National Forest Land Management Plan and accompanying Draft Environmental Impact Statement (DEIS). SCWRCA was created to cooperatively plan for preservation of open space, trails, parkland, and watershed protection in the Santa Clarita area and the upper Santa Clara River Watershed.

The Angeles National Forest, covering a large part of the Santa Clara River watershed, is integral to the ecological health of the river and the rest of the watershed. SCWRCA emphasizes that the ecological viability of the Santa Clara River and watershed depend on the ecological health of the Angeles National Forest. SCWRCA owns parkland, for example in Whitney Canyon, which is a portal to the National Forest for recreational users, and is also affected by activities on forest lands to the north. SCWRCA is also expected to own other forest-interface lands in the future. In this letter, we limit our comments to those aspects of the DEIS related to the Angeles National Forest.

To put the plan in context, the Angeles National Forest plays a crucial role for wildlife movement by providing connectivity from the San Gabriel Mountains, across State Route 14 (SR-14) and Interstate 5 (I-5), towards Los Padres National Forest (west of I-5). The Missing Linkages report (SCWP 2000) identifies these wildlife movement areas, one along the Santa Clara River, and others. The Missing Linkages effort is a collaborative effort among numerous land managers and planners, conservationists, and top scientists to identify the locations of, and threats to, the most important movement corridors for California's wildlife.

24255 THE OLD ROAD, NEWHALL, CALIFORNIA 91321
TELEPHONE: (310) 589-3230 FAX: (310) 589-2408

T2324

Angeles National Forest
Forest Management Plan and DEIS
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Page 2

SCWRCA supports many of the goals of the Southern California National Forests Vision including: Goal 2: Reduce the impacts from invasive species, Goal 3: Provide outdoor recreational activities, Goal 5: Improve watershed condition, and Goal: 6: Mission related work in addition to that which supports the agency goals.

SCWRCA also supports many of the strategies and tactics in the Angeles National Forest Strategy designed to protect biological resources, and to promote recreation compatible with protection of those resources. The attachment accompanying this letter lists just a few of those that SCWRCA supports.

The ultimate alternative chosen by the Forest Service must ensure that these strategies and tactics are implemented and the forest goals are met. Specifically, of those alternatives presented in the DEIS, alternatives 3 and 6, or some combination of the two, would provide the greatest likelihood of meeting those goals. SCWRCA supports designation of additional wilderness areas, as well additional backcountry non-motorized areas.

SCWRCA has previously supported California Wild Heritage Campaign and the designation of the Magic Mountain, Rim of the Valley, and Castaic Mountains Wilderness areas. SCWRCA recommends that the final preferred alternative incorporate the areas recommended for wilderness in both Alternatives 3 and in Alternative 6.

To clarify, in general, SCWRCA supports increased recreational opportunities in natural areas, such as on Forest Service land, but not when they disrupt existing sensitive natural resources. These can include activities such as hiking and camping. To that end, SCWRCA does not support the preferred alternative for the Angeles National Forest, Alternative 4. Activities such as off road vehicles should not be expanded and motorized back country areas should not be expanded in the forest. However, SCWRCA notes that some back country roads should remain open to ensure adequate access for fire protection in any alternative.

The Place Based Program Emphasis descriptions should emphasize the importance of the Angeles National Forest as part of wildlife movement areas from the San Gabriel Mountains east of SR-14, across SR-14 and I-5, to Los Padres National Forest west of I-5, and that these specific areas should be managed to protect those values. The following text should be added to the program emphasis for Soledad Front Country:

Management is expected to focus on the protection of communities from the threat of fire, the management of high levels of recreation use, and the maintenance of urban and forest infrastructure (facilities), and the protection of wildlife corridors.

T2324

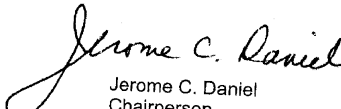
Angeles National Forest
Forest Management Plan and DEIS
August 11, 2004
Page 3

Similar type of language should be included in the text for The Front Country, as well as other Places in the Plan.

SCWRCA supports the Forest Service's attempts to incorporate measures in Appendix G-DRAFT- Guidelines for Construction, Maintenance and Operation of Mountain Top Communication Sites to protect migratory birds, and threatened and endangered species.

Thank you for the opportunity to comment. Please contact Judi Tamasi of our staff at (310) 589-3200, ext. 121 if you have any questions.

Sincerely,



Jerome C. Daniel
Chairperson

Literature cited

South Coast Wildlands Project (SCWP). 2000. Missing Linkages: Restoring Connectivity to the California Landscape-Conference Proceedings. November 2. San Diego Zoo, San Diego, California.

T2334

Attachment

SCWRCA supports many of the strategies and tactics in the Angeles National Forest Strategy. The following are just a few of those that SCWRCA supports.

- WL 1: Imperiled Species Management. Maintaining or improving habitat conditions for wildlife, fish and plant species.
- WL 1: Imperiled Species Management. Establish and maintain a working relationship with county planning to insure coordination on development projects within the county.
- WL 2: Management of Species of Concern. Strategy: Education/Information/Interpretation. Habitat fragmentation, species linkages and corridors and biological diversity.
- WL 2: Management of Species of Concern. Strategy: Survey/Inventory/Increase Knowledge Base. Riparian and Aquatic Species, Species with limited distribution, Terrestrial species.
- WL 2: Management of Species of Concern. Strategy: Habitat Protection. Proposed project planning, Coordination with other agencies, Habitat acquisition, Restricted human access during critical life stages, Prevent the spread of invasive nonnative species.
- IS 1: Invasive Species Prevention and Control. Prevent the introduction of invasive species and coordinate the treatment of invasive species across jurisdictional boundaries.
- WL 4: Wildlife, Fish and Rare Plants Habitat Management. Monitor the habitat for ecological health indicators (e.g. Arundo, tamarisk and bullfrogs).
- Lands 1: Strategic Acquisition. Work with land conservancies, local government, and others to secure long-term habitat linkages.
- Link 1: Habitat Linkage Planning. Manage forest use and activities to be compatible with maintaining habitat linkages.
- Link 1: Habitat Linkage Planning. Actively participate with local government, developers, and other entities to protect forest values at intermix and interface zones.
- WAT 1: Watershed Function. Restore, maintain and improve watershed conditions.
- REC 3: Recreation Participation. Offer a wide range of high quality, environmentally sustainable developed and dispersed recreation opportunities to a rapidly growing and culturally diverse visitor population, with minimal visitor conflicts and effects to other resources.
- REC 4: Conservation Education. The Forest Service plays a leadership role in the development of strong, well-supported conservation education partnership.
- Trans 3: Improve Trails. Develop an interconnected, shared-use trail network and support facilities that complement local, regional and national trails and open space, and that also enhance day use opportunities and access for the general public.

T2340

STATE OF CALIFORNIA--THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, Governor

SANTA MONICA MOUNTAINS CONSERVANCY

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August 11, 2004

Southern California Forest Plan Revisions
Forest Managers,
Angeles National Forest and Los Padres National Forest
USDA Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, Utah 84122

**Comments on National Forest Land Management Plans and
Draft Environmental Impact Statement**

Dear Forest Managers:

The following comments were prepared by staff of the Santa Monica Mountains Conservancy (Conservancy) and are subject to the official approval of the Conservancy board at the upcoming meeting of August 30, 2004. We anticipate that a letter of confirmation, signed by the Chairperson, will be sent to the U.S. Forest Service after that meeting. We ask that you please consider the following comments until that time.

The Conservancy offers the following comments on Southern California National Forest Land Management Plans and accompanying Draft Environmental Impact Statement (DEIS). The Conservancy's mission is to strategically buy back, preserve, protect, restore, and enhance treasured pieces of Southern California to form an interlinking system of urban, rural, and river parks; open space; trails; and wildlife habitats that are easily accessible to the general public.

Portions of the Angeles National Forest lie within the Rim of the Valley Trail Corridor, which is a portion of the Conservancy's jurisdiction. The Conservancy and the Forest Service are partners in a Memorandum of Understanding for cooperative activities in the Rim of the Valley Trail Corridor. Numerous habitat linkages and wildlife movement corridors connect the Angeles National Forest to Los Padres National Forest and to other core habitat areas of interest to the Conservancy. For example, the San Gabriel Mountains portion of the Angeles National Forest provides connectivity westward across State Route 14 (SR-14) into the Santa Susana Mountains, and across Interstate 5 (I-5) to Los Padres National Forest. The San Gabriel Mountains portion of the Angeles National Forest also connects southward to core habitat in the Verdugo Mountains. Los Padres National Forest

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also provides connectivity southward to the Santa Clara River, then to the Santa Susana Mountains, the Simi Hills, and to the Santa Monica Mountains. The Missing Linkages report (SCWP 2000) identifies these and other important wildlife movement areas and habitat linkages. The Missing Linkages effort is a collaborative effort among numerous land managers and planners, conservationists, and top scientists to identify the locations of, and threats to, the most important movement corridors for California's wildlife.

The Conservancy and its joint powers partner, the Mountains Recreation and Conservation Authority, own land in many of these core habitat and habitat linkage areas. The ecological health of these areas are dependent on the ecological health of these national forests. In this letter, we focus our comments to those aspects of the DEIS related to the Angeles National Forest, with some limited comments related to wilderness areas in Los Padres National Forest.

The Conservancy supports many of the goals of the Southern California National Forests Vision including: Goal 2: Reduce the impacts from invasive species, Goal 3: Provide outdoor recreational activities, Goal 5: Improve watershed condition, and Goal: 6: Mission related work in addition to that which supports the agency goals.

The Conservancy also supports many of the strategies and tactics in the Angeles National Forest Strategy designed to protect biological resources, and to promote recreation compatible with protection of those resources. The attachment accompanying this letter lists just a few of those that the Conservancy supports.

The ultimate alternative chosen by the Forest Service must ensure that these strategies and tactics are implemented and the forest goals are met. Specifically, of those alternatives presented in the DEIS, alternatives 3 and 6, or some combination of the two, would provide the greatest likelihood of meeting those goals. The Conservancy supports designation of additional wilderness areas, as well additional backcounty non-motorized areas.

The Conservancy has previously supported the California Wild Heritage Campaign and the Federal designation of the Rim of the Valley, Magic Mountain, Condor Peak, and Strawberry Peak areas in Angeles National Forest as wilderness. The Conservancy also supported the Federal designation of several proposed additions to the Sespe Wilderness Area in Los Padres National Forest. Those proposed additions are: Boulder, Chorro Grande, Beaver, Fishbowls, Thorn, and Stonehouse. In addition, the Conservancy recommends that the final preferred alternative incorporate those areas recommended for wilderness in the Angeles National Forest and Los Padres National Forest proposed in both Alternative 3 and in Alternative 6 in "Los Padres South."

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To clarify, in general, the Conservancy supports increased recreational opportunities in natural areas, such as on Forest Service land, but not when they disrupt existing sensitive natural resources. These increased recreational opportunities can include activities such as hiking and camping. To that end, the Conservancy does not support the preferred alternative for the Angeles National Forest, Alternative 4. Activities such as off road motorized vehicles should be not be expanded and motorized back country areas should not be expanded in the forest. However, the Conservancy notes that some back country roads should remain open to ensure adequate access for fire protection in any alternative.

To that end, the Conservancy does not support the Strategy, "Trans 4," for the Angeles National Forest regarding improving off-highway vehicle opportunities and facilities for highway licensed and non-highway licensed vehicles. However, if the Forest Service chooses to retain the language of this strategy, the following underlined language should be added to the text in Part 2-the Angeles National Forest Strategy, Land Management Strategy:

Trans 4: Off-Highway Vehicle Opportunities. Improve off-highway vehicle opportunities and facilities for highway licensed and non-highway licensed vehicles, only where they are found to be strongly compatible with the protection of existing sensitive biological resources.

- In conjunction with the designation of low maintenance standard roads (and where applicable, open areas), develop motorized trails that address the needs of off-highway vehicle enthusiasts, only where they are found to be strongly compatible with the protection of existing sensitive biological resources.

The Place Based Program Emphasis descriptions should emphasize the importance of the Angeles National Forest as part of wildlife movement areas from the San Gabriel Mountains east of SR-14, across SR-14 and I-5, to Los Padres National Forest west of I-5, and that these specific areas should be managed to protect those values. The following text should be added to the program emphasis for Soledad Front Country:

Management is expected to focus on the protection of communities from the threat of fire, the management of high levels of recreation use, and the maintenance of urban and forest infrastructure (facilities), and the protection of wildlife corridors.

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Similar type of language should be included in the text for The Front Country, as well as the other Places in the Plan. Also, specifically within the description for the Front Country, habitat linkages and wildlife movement connections to the Verdugo Mountains should be emphasized.

The Conservancy supports the Forest Service's attempts to incorporate measures in Appendix G-DRAFT- Guidelines for Construction, Maintenance and Operation of Mountain Top Communication Sites to protect migratory birds, and threatened and endangered species.

Thank you for the opportunity to comment. Please contact Judi Tamasi of our staff at (310) 589-3200, ext. 121 if you have any questions.

Sincerely,



RORIE SKEI
Chief Deputy Director

Literature cited

South Coast Wildlands Project (SCWP). 2000. Missing Linkages: Restoring Connectivity to the California Landscape-Conference Proceedings. November 2. San Diego Zoo, San Diego, California.

Attachment

The Santa Monica Mountains Conservancy (Conservancy) supports many of the strategies and tactics in the Angeles National Forest Strategy. The following are just a few of those that the Conservancy supports.

- WL 1: Imperiled Species Management. Maintaining or improving habitat conditions for wildlife, fish and plant species.
- WL 1: Imperiled Species Management. Establish and maintain a working relationship with county planning to insure coordination on development projects within the county.
- WL 2: Management of Species of Concern. Strategy: Education/Information/Interpretation. Habitat fragmentation, species linkages and corridors and biological diversity.
- WL 2: Management of Species of Concern. Strategy: Survey/Inventory/Increase Knowledge Base. Riparian and Aquatic Species, Species with limited distribution, Terrestrial species.
- WL 2: Management of Species of Concern. Strategy: Habitat Protection. Proposed project planning, Coordination with other agencies, Habitat acquisition, Restricted human access during critical life stages, Prevent the spread of invasive nonnative species.
- IS 1: Invasive Species Prevention and Control. Prevent the introduction of invasive species and coordinate the treatment of invasive species across jurisdictional boundaries.
- WL 4: Wildlife, Fish and Rare Plants Habitat Management. Monitor the habitat for ecological health indicators (e.g. Arundo, tamarisk and bullfrogs).
- Lands 1: Strategic Acquisition. Work with land conservancies, local government, and others to secure long-term habitat linkages.
- Link 1: Habitat Linkage Planning. Manage forest use and activities to be compatible with maintaining habitat linkages.
- Link 1: Habitat Linkage Planning. Actively participate with local government, developers, and other entities to protect forest values at intermix and interface zones.
- WAT 1: Watershed Function. Restore, maintain and improve watershed conditions.
- REC 3: Recreation Participation. Offer a wide range of high quality, environmentally sustainable developed and dispersed recreation opportunities to a rapidly growing and culturally diverse visitor population, with minimal visitor conflicts and effects to other resources.
- REC 4: Conservation Education. The Forest Service plays a leadership role in the development of strong, well-supported conservation education partnership.
- Trans 3: Improve Trails. Develop an interconnected, shared-use trail network and support facilities that complement local, regional and national trails and open space, and that also enhance day use opportunities and access for the general public.



San Gabriel & Lower Los Angeles
RIVERS AND MOUNTAINS CONSERVANCY

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CALIFORNIA RESOURCES AGENCY

August 9, 2004

Southern California Forest Plan Revisions
Angeles National Forest
USDA Forest Service Content Analysis Center
P O Box 22777
Salt Lake City, UT 84122

RE: Draft Environmental Impact Statement for Revised Land Management Plans: Angeles National Forest, Cleveland National Forest, Los Padres National Forest and San Bernardino National Forest

The Rivers and Mountains Conservancy (RMC) appreciates the opportunity to comment on the aforementioned project. RMC is an independent State agency within the Resources Agency of the State of California whose mission is to provide open space, low-impact recreation and educational uses, water conservation, watershed improvement, wildlife and habitat restoration and protection. The RMC was established in 1999 and our territory includes the San Gabriel River Watershed and its tributaries, the Lower Los Angeles River Watershed and its tributaries, and the San Gabriel Mountains, Puente Hills and San Jose Hills.

The RMC, along with over 60 cities in our jurisdiction, has adopted an open space plan, *Common Ground*, which provides us with the policy framework for our comments on the Draft Environmental Impact Statement for Revised Land Management Plans and the Angeles National Forest Plan Update. Further, as one of the primary agencies responsible for disbursement of Proposition 40 and 50 funds to local, state and federal agencies in Los Angeles County, we have an interest and concern about contemplated alterations of land use in the vicinity of the funded projects.

As is recognized throughout these reports the long-term health of open space areas and river systems is dependent on the health of regional ecosystems because the biotic boundaries extend beyond jurisdictional boundaries. Specific comments provided in this letter address both the Draft Environmental Impact Statement and the Angeles National Forest Strategy. Issues impacting ecosystem health and wildlife corridors are also identified relative to the Cleveland, San Bernardino and Los Padres Plans.

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Comments on the Executive Summary of the Draft Environmental Impact Statement for Revised Land Management Plans

Issue 1: Public Values and Uses

The understanding of public values is central to establishing guidelines for how the Plan will address this issue. Agencies such as the Rivers and Mountains Conservancy and other watershed planning agencies working in the region face the recurring challenge of educating a constituency largely uninformed on the principles of sustainable watershed planning. It cannot be assumed that "public values" are informed by these principles. Community surveys indicate that few people in the region understand the meaning of "watershed" let alone its importance to their community. How the Plan responds to the issue of recommended public uses should therefore take this lack of knowledge into account. Furthermore, recent support for environmental bond measures at state level indicates a growing willingness on the part of the public to preserve the dwindling natural resources surrounding their communities.

Damage to the integrity of the forest natural resources should be avoided at all costs. Proposed uses should not degrade the Forests, rather the Plan should protect and enhance. Restoration and species recovery plans are costly and pose an unnecessary drain on limited budgets.

Activities such as OHV should be minimized; noise levels and air and ground pollution associated with this activity are not compatible preservation of essential public values. Furthermore, a recent decision by the Bureau of Land Management expanding off road vehicle use in the Mojave should minimize the need to include this type of recreation in the forests.

Issue 2: Ecosystem Elements and Function

Resource management of the forests presents a formidable challenge. Addressing the question of managing the Forests' wildlife and plants, or, as the document states: "balancing the demands of people with conserving habitat for imperiled species" calls for a thorough integration of all elements of the Plan. The Southern California National Forests exist in an area where degradation of sensitive habitat has been, and continues to be a trend as population increases. As stated in the Plan document, Southern California is:

...recognized as one of the world's "biodiversity hotspots" (areas where exceptional concentrations of endemic species are undergoing exceptional loss of habitat). They provide habitat for 31 federally listed threatened and endangered animals, 29 federally listed threatened and endangered plants, 34 Forest Service sensitive animals and 134 Forest Service sensitive plants.

The region has evolved to be a global biodiversity hot spot due to the fact that, historically, in the face of rapid expansion and the need to meet the demands of a growing population, insufficient emphasis was placed on preservation of natural resources in the region. The importance of the National Forests cannot be over-emphasized. The forests represent some of the most important habitat core areas in the

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region. Greater emphasis should therefore be placed on preservation of the remaining biological resources. Proposed recreation and other uses for the forests included in the Plan should be measured against, and be consistent with protecting this precious resource.

Expansion of transportation corridors consistent with fire management needs is an essential component of the Plan. However, the expansion should be limited to the greatest possible extent so as to minimize the impacts on wildlife connectivity within and between the four forest areas. Connectivity between meta-populations is critical to biodiversity and long term viability of species, and transportation corridors pose an obstacle to connectivity (Reed et al, 1996). Studies also indicate that predator species such as mountain lions avoid areas of high road densities (Reed et al, 1996). Therefore the Plan needs to place higher emphasis to limiting road densities and to facilitating wildlife movement.

Fire management needs to be coordinated with those communities located within and adjacent to the forests. Besides establishing clear guidelines on recreation uses that do not increase the risk of fire, education and outreach should focus on sensible building and safety standards for these communities and upon providing buffer zones where forest management and thinning reduces the risk of fire. Communities located in close proximity to the forests i.e. "*Urban and Rural Interface*" need to adopt the responsibilities of appropriate planning standards and community education consistent with the management of the Forests. Therefore, community planning in these areas needs to address preservation of the natural hydrology and sustainable landscape planning that will assist in the Forests' fire management.

Recognition of the role of fire cycles in the evolution of and preservation of the biodiversity of the Forests should be given strong emphasis in the selected alternative and where possible controlled burns should play a role in the future management strategies. The Forest Service should develop administrative procedures which facilitate emergency response to fire in wilderness areas.

Goal 2. states: *Invasive species, particularly insects, pathogens, plants, and aquatic pests, pose a long-term risk to the health of the nation's forests and grasslands.* While many of the threats posed by invasive native and non-native species are known, the full extent of the damage posed to unique native genotypes by these species is not yet fully understood. It is important therefore that all elements of the Plan account for this fact and that proposed uses be measured against the resultant possible increase in invasive species.

The value of the forests as a watershed resource cannot be overstated. The contribution of the Angeles National Forest to the Los Angeles, San Gabriel and Santa Clara Rivers watersheds is essential to the survival of its constituent communities. In this context the proposed uses and management strategies require special scrutiny. The topography of the Forest plays a central role but it is important to recognize the function of the hydrology and associated vegetation communities of the forest in functioning of the watershed as a whole. The upland and riparian vegetation communities play a vital role

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in maximizing the harvest of the limited rainfall in the region. The management of land and vegetation in the mountain areas comprising the National Forests should maximize the recycling of nutrients that support the vegetation communities as well as the capture and filtering of runoff. Areas where the natural hydrology has been altered need special management considerations to ensure transport of sediment and support of natural vegetation needs. Consequently, recreation uses, fire management, invasive species management and other elements should support and enhance the ability of the forest to meet watershed demands of the growing population in the region.

Issue 3: Commodity Values and Uses:

Much of the pressure for increased outflows from natural resource areas is driven by unreasonable consumption. For this reason, land use plans need to recognize that planned response to growing demand for forest products should be considered alongside measures such as limits on consumption and expectations of outflows consistent with the long term viability of the forests. The "*increased demand for uses and products such as water extraction, oil and gas development, and special forest products*" must take into account the finite nature of these resources and address appropriate limits to these expectations. While it is appropriate that forests meet the local needs for products, growing global demands for forest products underlie many statistics therefore should be addressed separately in the Plan's response to this issue. Response to global demand should be secondary to local needs and to the preservation of natural resources of the forests. The Management Plan should also support the use of waste-conversion technologies and recycling as a means of minimizing the impacts of extraction and supplanting the growing demand for forest products.

Issue 4: Urban Development and Forest Habitat Linkages

Growing populations and expanding urban development are increasing pressure on forest resources.

The role that the National Forests play in the context of expanding urban development requires careful consideration. The importance of the Forests is clearly stated in the planning documents. As repositories of natural resources and watershed functions, the forests can facilitate sustainable development in the region. In doing so, acceptable limits on development within the jurisdiction of the Forests must be established. As stewards of this local and regional resource forest managers carry the responsibility to preserve essential integrity of the natural resources that ultimately find a common ground with the proponents for urban development. To this extent Forest managers need to identify strategies to work with agencies and municipalities in these areas to facilitate habitat connectivity between the Forests.

Issue 5: Special Area Designations:

Special Area Designations function to protect some of the unique natural resources of southern California. The Forests contain exceptional botanical, zoological, geological, cultural, and scenic values, deserving special recognition and management. As stewards of these unique resources Federal agencies under the Environmental Policy Act of 1970, enacted to promote efforts which will prevent or eliminate damage to the environment, have the responsibility and authority to protect, enhance and expand Special Area Designations accordingly. In addition, the Plan should place heavy emphasis on

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Research Natural Areas (RNAs). The Forest Service Manual (4063.02) states that one of the objectives of RNAs is to "preserve a wide spectrum of pristine representative areas that typify important forest, scrubland, grassland, alpine, aquatic, geological, and similar natural situations that have special or unique characteristics of scientific interest and importance that, in combination, form a national network of ecological areas for research, education, and maintenance of biological diversity." (Andrews 1993)

The Preferred Alternative

In order to foster protection of our delicate forest ecosystem the RMC recommends that Alternative 6 be adopted for the Southern California National Forests. Alternative 4 emphasizes recreational activities, such as off highway vehicle use, which may or may not be a priority or interest in a few years, not to mention a few generations. Consistent with the principles identified in *Common Ground* Alternative 6 maintains a strong emphasis on protection of and restoration of biological diversity and ecological function and mitigation of existing impacts from all uses of National Forest Serve lands.

Additionally, development within the National Forest boundaries (oil, gas, power transmission, toll roads, hydroelectric, antenna sites, as well as commercial and residential developments) deeply impact every aspect of the ecosystem, from alteration of fire patterns, alteration of and introduction of disease patterns, introduction of non-native species, fragmentation of habitat, interruption of breeding and foraging behavior, increased levels of road kill from increased traffic and numbers of roads, and degradation of natural watershed functions, among many other impacts.

The Forest Service should recommend the entire wilderness areas listed in Alternative 6 for wilderness protection. A great start has been made by suggesting an expansion of Sheep Mountain Wilderness; however, protection should also be given for Condor Peak, Castaic, and Pleasant View. Additionally, the move to include more listings of Wild and Scenic Rivers for Southern California Forests is significant. However, no recommendations have been made for the remaining 80% of rivers that are eligible for this protection. This is especially important for those streams that either contain threatened or endangered species, or where the headwaters for these streams start on Forest Service land and support threatened or endangered species farther down the watershed on non-Forest Service land. Examples of this include San Francisquito Canyon Creek, Escondido Canyon Creek, and Soledad Canyon who support or could support recovery for the endangered Unarmored Threespine Stickleback.

The RMC is currently working with other agencies on an initiative to preserve critical wildlife movement in the upper Santa Clarita Watershed. We view the preservation of wildlife movement corridors particularly vital in the current climate of development in the region. We are specifically focusing on preserving a wildlife corridor between the Angeles National Forest (San Gabriel Mountains), through the Santa Clara Valley across Highway 14, across to the Sierra Pelona Angeles National Forest range. The further extension of this corridor includes both the Los Padres National Forest to the west, and the Tehachapi Mountains to the North. This document mentions the consideration of wildlife corridors as a priority (ANF Strategy-15), and we encourage continued

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coordination to ensure both large and small wildlife corridors are appropriately planned. We would urge you to consider regional wildlife movement routes and potential impacts to wildlife from roads and OHV use when studying and authorizing recreational activities/features on National Forest Land.

Draft Land Management Plan Part 2: Angeles National Forest Strategy Comments provided by page number

ANF Strategy-7

Under *Wild and Scenic River* heading, you list eligible rivers and segments not yet officially designated. This is followed by the statement "All existing facilities, management actions, and approved uses will be allowed to continue in eligible river corridors until a decision is made on inclusion into the National Wild and Scenic River System..." Throughout your Draft Land Management Plan you consistently cite over-use and irresponsible use of riparian/rivers by humans as the source of degradation for rivers and riparian areas. If a river is eligible for listing as a Wild and Scenic River, it should be managed to protect the valuable characteristics that make it eligible for this designation. You are urged to immediately reassess existing facilities, management actions, and approved uses for these rivers (Little Rock Creek, San Antonio Canyon Creek, San Francisquito Canyon, and San Gabriel River (East, North, and West Forks)) to better protect the unique character, biological importance, and watershed protection these rivers provide. Current management strategies are allowing extreme degradation to the health of these systems, especially along the East and West Forks of the San Gabriel River.

ANF Strategy-11

The mission of the Forest Service is stated as "to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations". While it is necessary to consider the various alternatives for activities to be allowed in the Forest this guiding principle should be the basis for all recommendations. If there is to be a thriving forest and grassland ecosystem left intact for future generations, as well as allowing current enjoyment of solitude and more traditional uses of forest land, there needs to be a reassessment of activities allowed on National Forest Land.

ANF Strategy-12

Under the *Buffers* bullet, several techniques are mentioned such as the application of herbicides to reduce vegetation density within the Wildland Urban Interface. Please consider the use of alternatives to pesticide and herbicide usage on National Forest land as to this does not seem to merge with the goal of "improving watershed conditions" mentioned frequently throughout this document.

ANF Strategy-13

Under the *Public Use and Enjoyment* heading, several activities are highlighted including car rallies and summer homes. However, there is no mention of peace and quiet and/or solitude.

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Under the *Concentrated Use Areas* heading, the document states that these locations are often along rivers and streams with easy road access, and lack trash collection facilities and restrooms. These features combined with the heavy usage are resulting in significant degradation of these "sites". Unfortunately, these "sites" being river ecosystems are degraded far beyond the actual footprint of the physical impacts. River and stream ecosystems feel the affects from poor water quality, excessive sedimentation and siltation, vegetation removal, erosion, noise, alterations to water temperature, introduced exotic species, among others for many miles, both upstream and downstream from each of these "sites". It is unclear how this type of management and usage is consistent with the goal of "improving watershed conditions" mentioned throughout this document. Furthermore, it appears there is an overburden of the river and stream systems within the Angeles National Forest by human recreation as the recreation tends to be disproportionately located within these ecosystems.

Facilities Operation and Maintenance – Under this heading, grounds operation is defined to include maintaining sprinkler systems, mowing, edging, and fertilization of all lawn areas, as well as tree pruning and flower bed maintenance. It is recommended that the elimination of lawns and non-native landscapes be considered as part of this planning effort. Not only do the chemicals pollute our waterways and reduce biological health and diversity, but lawnmowers and blowers add to the pollution of our air. Air quality degradation is cited as having a major impact on the health of the forest throughout this document. Please consider lessening the National Forests' contribution to the growing problem of air and groundwater pollution by eliminating this unnecessary use of non-native landscaping from the park. This is consistent with popular support for native landscapes; significant portions of voter sponsored Propositions 12, 40, and 50 funds are all going toward removing non-native plant species and restoration of the natural landscapes.

ANF Strategy-15

Resource Management – Under the Wildlife, Fish and Plant Management bullet, program emphasis is listed as on minimizing the effects of urbanization on wildlife. Specifically, "core areas" are mentioned as being the areas in which the Forest Service will focus on the protection of wildlife, fish, and plant management. To remain consistent with the mission of the Forest Service, "to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations", this statement must reflect that the natural resources of the entire park be managed for the health of the forest.

This report indicates there is conflict between protecting wildlife resources and other uses such as recreation. Additionally this report continues to state that recreation is contributing to the degradation of forest health. However, only 5% of identified forest health projects, and 10% of species recovery tasks are expected to be completed over the life of this plan. The plan indicates continued emphasis on "improving our knowledge base regarding riparian dependent threatened and endangered species through basic inventory of suitable habitat", rather than taking action to protect habitat. Currently, enough information exists, both from internal Forest Service funded studies,

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as well as general scientific literature, to know that OHV use (via sedimentation, siltation, and erosion as well as degraded water quality, noise, introduction of non-native species from outside the park, and direct habitat removal) and human use (via sedimentation, siltation, and erosion as well as degraded water quality, noise, non-native species introduction, and direct habitat removal) pose a serious problem to the health of riparian dependant species and the habitat they occupy. There are also studies that exist detailing suitable habitat where these species are currently found, or could potentially exist. Better management strategies should be enacted to protect habitat occupied by TEPCS (Threatened, Endangered, Proposed, Candidate, and Sensitive) species as well as the watershed processes that provide the delicate habitat they depend upon throughout the entire forest.

Invasive Species – This heading indicates that a high priority be placed on controlling non-native species that compete or prey on TEPCS species. The plan then indicates that staff expects to implement control measures of approximately 20% of the known invasion areas. However, with such limited resources this appears to be only a band-aid solution. Source control issues, such as the spread on non-native seed via OHV and off-road bicycles, as well as geographic consideration (i.e. removal from the top of the watershed down to save money on repeat infestations from upstream) should be addressed.

ANF Strategy-16

Road and Trail System - Introduction of a tram or bus system, similar to those implemented at heavily used National Parks, should be considered. This would eliminate the need for additional parking sites, with the unnecessary impact to habitat, indicated to be increased by 10% in this plan. Research indicates that improved roads (both dirt and paved) impact wildlife by reducing the range of movement and fragmenting habitat (Oxley, 1974, Garland, 1984, and Wilkins, 1982). (Fahrig, et al., 1995) concluded that frog and toad density decreased with increasing traffic intensity, and the number of dead frogs and toads increased with increasing traffic intensity. Additional research indicates that wildlife species associated with interior forest habitat or old-growth are adversely affected by habitat degradation and by forest fragmentation due to logging and roads (Hargis, 1999 and Van Dyke, 1986). User demand needs to be balanced with consideration for species needs, including small scale and large scale wildlife corridors.

ANF Strategy-18

AM 1: Management Cycle

The bullet "Manage recreation opportunities to respond to changing visitor demographic profiles" should be changed to include "in a manner that protects wildlife and natural resources and does not compete with TEPCS species".

ANF Strategy-19

WL 1: Imperiled Species Management

Under the bullet "Where known or potential Conflicts may occur, coordinating with California Department of Fish and Game...", coordination with the California Regional Water Quality Control Board(s), as well as the US Fish and Wildlife Service should be added as well.

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ANF Strategy-20

WL 2: Management of Species of Concern

In addition to the species noted it is recommended that native bunchgrasses, bats, various reptiles, among many other imperiled or steadily declining species be recognized in this section.

ANF Strategy-23

WL 4: Wildlife, Fish and Rare Plants Habitat Management

The bullet "Protect habitat during fire suppression activities where feasible" should be expanded to include consideration of the impacts of standard fire suppression techniques. Throughout this document the task of fire suppression and creation of fuel thinning zones appear to be a priority. In several places the document acknowledges fire suppression will be used to ensure appropriate fire return intervals are achieved to protect habitat (ANF Strategy-24). While protecting humans from the harm of fire is extremely important, the environment is often negatively affected by fuel thinning and fuel modification planting (Longcore, 2003). For example, the denudation from fuel modification results in increased storm water flow, higher peak flows, and more suspended solids in the streams that drain into the Pacific Ocean from the mountains (Radtko 1983). Additionally, specialized, less flammable planting used to reduce the risk of fire introduces non-native and invasive species to these ecosystems. Coordination of all fuel thinning and fuel modification practices should be overseen by qualified ecologists/biologists and state resource agencies.

The recommendation to limit roads, OHV access, commercial and residential housing, etc. to reduce anthropomorphic impacts to natural fire cycles should be made. Furthermore, in the Urban Wildland interface, as well as developments on private holdings within the forest, all fuel modification activity should be completed off of National Forest Land.

ANF Strategy-25

Air 2: Forest Air Quality Emissions

This section refers only to "wildland fire and other forest resource management emissions" as being a concern for air quality within forest boundaries. Off Highway Vehicle usage within the forest boundaries contributes directly to decreased air quality as well as the health of the trees and ecosystems within the forest. Management measures to monitor and reduce these emissions and their impact to the forest should be addressed.

WAT 1: Watershed Function

With reference to the bullet "Maintain watershed integrity by replacing or disposing of displaced soil and rock debris in approved placement sites", it is recommended that this bullet be eliminated. These issues are addressed in at least three other bullet points in this section that also consider the restoration and preservation of natural hydrologic function.

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ANF Strategy-26

WAT 2: Water Management

The statement "Manage groundwater and surface water to maintain or improve water quantity and quality" should be clarified. In section FH 2: Prevention of Type Conversion, you discuss type conversion from fires, but no mention of hydrological type conversion is made. Altering flow regimes in an unnatural manner, such as extending the number of days a stream stays wet, type converts the entire ecosystem as well as setting the stage for non-native animals to thrive. Protecting the ephemeral and intermittent nature of streams and the geomorphic processes and habitat they support should be included under water management. Additionally, management of water resources should be encouraged to protect and restore natural processes, such as sediment and nutrient cycling, within the forest.

ANF Strategy-29

REC 2: Sustainable Use and Environmental Design

Under this bullet, the issue of visitor use within limits of identified capacities is mentioned. It is unclear what capacities the plan is talking about. The capacity for the environment to naturally recover given a certain impact and frequency needs to be determined. Over use of "high capacity" recreational spots is causing damage to the environment to the point it can no longer naturally recover. Other solutions such as trams and busses could provide some measure to control the number of users allowed to access a site.

ANF Strategy-36

The Front Country

Under "Desired Conditions", the phrase "The Front Country Place is maintained as a natural appearing landscape that functions as a first impression..." should be changed to naturally functioning.

ANF Strategy-39

Angeles High Country

Under "Desired Conditions", the phrase "The Angeles High Country Place is maintained as a naturally evolving and natural appearing landscape that functions as a year round forested mountain recreation area..." should be changed to naturally functioning ecosystem.

ANF Strategy-41

Angeles Uplands East

Under "Desired Conditions", the phrase "The Angeles Uplands East is maintained as a naturally evolving and natural appearing landscape that ..." should be changed to naturally functioning ecosystem.

ANF Strategy-42

Angeles Uplands West

T1576

Under "Desired Conditions", the phrase "The Angeles Uplands West is maintained as a naturally appearing landscape that ..." should be changed to naturally functioning ecosystem.

ANF Strategy-44

Big Tujunga Canyon

Under "Desired Conditions", the phrase "The Big Tujunga Canyon is maintained as a natural appearing landscape that ..." should be changed to naturally functioning ecosystem. The desired condition should also include restoration of degraded ecosystems.

ANF Strategy-46

1-5 Corridor

Under the setting it is implied that this corridor may provide a significant habitat linkage between the Angeles National Forest and Los Padres National Forest. This linkage is identified in the *Missing Linkages: Restoring Connectivity to the California Landscape* report which was a statewide collaborative effort to identify the most critical wildlife movement corridors statewide.

Under "Desired Conditions", the phrase "The 1-5 Corridor is maintained as a natural appearing landscape that ..." should be changed to naturally functioning ecosystem and wildlife corridor that ...

ANF Strategy-47

Liebre-Sawmill

Under "Desired Conditions", the phrase "The Liebre-Sawmill is maintained as a natural appearing landscape that functions as a year-round open space..." should be changed to naturally functioning ecosystem that provides wildlife habitat, functioning as a year-round open space...

ANF Strategy-49

San Gabriel Canyon

Under "Desired Conditions", the phrase "The San Gabriel Canyon is maintained largely as a natural appearing landscape that functions as a day use..." should be changed to naturally functioning ecosystem that provides wildlife habitat, in addition to recreational day use...

ANF Strategy-52

Santa Clara Canyons

Under "Desired Conditions", the phrase "The Santa Clara Canyons is maintained as a natural appearing and pastoral landscape that functions as a remote backcountry openspace..." should be changed to naturally functioning ecosystem that provides backcountry open space.

ANF Strategy-53

Soledad Front Country

T1576

Under "Desired Conditions", the phrase "The Soledad Front Country is maintained as a natural appearing area that functions as a scenic backdrop and transitional landscape" should be changed to naturally functioning ecosystem that provides wildlife habitat, functioning as a scenic backdrop and transitional landscape.

Emphasis on this area should also include the coordination of a wildlife corridor to connect the San Gabriel Angeles Forest area, across the Santa Clara River Valley, to the Sierra Pelona Angeles National Forest area. Additionally, the forest forms the headwaters for a vernal pool complex in the Cruzan Mesa area. Coordinating the protection of this resource should be considered when authorizing recreational activities within the watershed.

ANF Strategy-55

Mojave Front Country

Under "Desired Conditions", the phrase "The Mojave Front Country is maintained as a natural appearing and cultural landscape that functions as a year round scenic..." should be changed to naturally functioning ecosystem that provides wildlife habitat, and a cultural landscape that functions as a year round scenic...

Once again, we appreciate the opportunity to provide comments and for your serious consideration as we all strive to protect our Forests for current and future generations. These comments were approved by the Governing Board of the RMC on July 19, 2004. Please do not hesitate to contact me if you would like to discuss this matter further.

Sincerely,



Bev Perry
Vice-Chair

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Web Resources:
<http://ceq.eh.doe.gov/nepa/regs/nepa/nepaeqia.htm>

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T3179
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August 11, 2004

Southern California Forest Plan Revisions
USDA Forest Service Content Analysis Center
P.O. Box 22777
Salt Lake City, UT 84112

RE: Comments on the Draft Environmental Impact Statement and Forest Management Plans for Los Padres, Cleveland, San Bernardino, and Angeles National Forests

Dear Sir or Madam:

The Attorney General of the State of California submits the following comments regarding the Draft Environmental Impact Statement (DEIS) for the Forest Management Plans for Los Padres, Cleveland, San Bernardino, and Angeles National Forests. The Attorney General submits these comments pursuant to his independent power and duty to protect the natural resources of the State from pollution, impairment, or destruction in furtherance of the public interest. (See Cal. Const., art. V, § 13; Cal. Gov. Code, §§ 12511, 12600-12; *D'Amico v. Board of Medical Examiners*, 11 Cal.3d 1, 14-15 (1974).) These comments are made on behalf of the Attorney General and not on behalf of any other California agency or office. While these comments focus on some of the primary issues raised by the DEIS, they are not an exhaustive discussion of all issues.

The Attorney General's Office has a long history of participation in national forest planning in California that reflects the importance of national forests and forest resources to the people of this State.¹ We have consistently supported comprehensive, regional planning

¹Beginning in the 1980s, this Office has participated constructively in several forest planning efforts. For example, we submitted extensive comments on a number of proposed forest plans (including plans covering the Plumas, Sequoia, Tahoe, Modoc, Shasta-Trinity, and Lassen National Forests), appealed and intervened in the appeals of several plans, and participated in a seventeen-month mediation process for the Sequoia National Forest land management plan. We commented on and intervened in the administrative appeal in support of adoption of the comprehensive ecosystem management plan for Sierra Nevada Region, the Sierra Nevada Framework Plan. We also commented on the DEIS for the Oil and Gas Drilling Plan for Los Padres National Forest in 2002. One of our main criticisms of that DEIS was that such

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approaches designed to protect and preserve all the values of the national forest resources within the State. These National Forests cover some of the most spectacular and sensitive areas of the State, including large swaths of undeveloped land with wilderness and roadless areas that provide vital habitat for a number of endangered and sensitive species. The forests offer unparalleled scenery and recreational opportunities, and are among the last remaining wild and open spaces in the whole of Southern California.

We believe that the DEIS and Plans fall short of the requirements under the National Environmental Policy Act (NEPA), 42 U.S.C. section 4321, *et seq.*, the National Forest Management Act (NFMA), 16 U.S.C. section 1604, *et seq.*, and the Wild and Scenic Rivers Act, 16 U.S.C. section 1271, *et seq.* The Forest Service appears focused on energy development and off-road vehicle use to the detriment of wilderness and more passive recreation use of the Forests. In order to reach its conclusions, the Forest Service fails to provide a full range of alternatives that would allow the public a chance for meaningful evaluation of the impacts of different mixes of forest uses. In addition, the Forest Service ignores significant impacts of its preferred alternatives and fails to address environmental harms resulting from its proposal. The Forest Service, in these Forest Management Plans and DEIS, has missed its primary opportunity to present a meaningful vision of the next few decades in Forest use and management, and, in doing so, has presented the public with a legally deficient planning document.

The first priority of the planning process is to maintain or restore the ecological sustainability of the National Forest. (36 C.F.R. § 219.2(a).) The Forest Management Plans should provide a full discussion of the balancing of the competing demands upon National Forests. (*Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1511 (9th Cir. 1992).) This includes taking into consideration the evolving social and economic demands upon the forests.

planning should not be done in isolation, but should be incorporated into the Forest Management Plan that was then in development. We made three essential points in our comments. First, we stated that DEIS made little sense because it sought to make specific lands available for leasing prior to completion of the comprehensive forest plan update that will involve balancing all competing uses of forest land for the maximum benefit to the public, and that may determine that oil and gas development is not the best use. Second, oil and gas drilling would create enormous potential risks to the viability of the California Condor, a species that just two decades ago hovered on the brink of extinction and now is making a recovery within the Los Padres National Forest. Yet this impact was not sufficiently analysed. Third, the hundreds of miles of new oil and gas pipelines that will be required present human health and environmental risks from potential ruptures and leaks that have not been adequately analyzed. We are distressed to find that the instant DEIS merely incorporates the Oil and Gas Drilling DEIS without further addressing these key points. (DEIS, Appendices, at 136.)

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(36 C.F.R. § 219.1(b)(3).) It is through the forest planning process required by the NFMA, that the Forest Service determines the best use of the forest lands in relation to all possible values for the same lands, including protection of biological and aesthetic resources and recreational uses. Forest Management Plans must comply with the NEPA, which requires the preparation of an EIS whenever major federal actions significantly affect the quality of the human environment. (42 U.S.C. § 4332(2)(C).) The EIS must: "set forth sufficient information for the general public to make an informed evaluation ... and for the decision maker to consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the proposed action." (*Sierra Club v. United States Army Corps of Engineers*, 701 F.2d 1011, 1029, n.18 (2d Cir. 1983).)

The purpose of Forests Management Plans is to provide strategic direction to guide all resource management activities in the forests. (DEIS at 1-5.) It is an opportunity to provide a vision that includes restoring and preserving the forests, in addition to allowing reasonable use. It is the platform for balancing beneficial uses with the preservation and enhancement of the many special natural resources within the forest boundaries. However, this DEIS and the Forest Management Plans seem willing to settle for merely holding the line against the forces that are limiting the value of the forest, rather than provide a vision for better management. The Forest Management Plans appear willing to accept the status quo even if it permits harmful uses such as excessive off-road vehicle use. It is our view that the Forest Service has, in its choice of alternatives, settled for what it thinks it can accomplish with limited resources, rather than produce Forest Management Plans that are truly visionary about how the Southern California forests can be better managed.

The preferred alternatives, 2 and 4, place an emphasis on certain recreational uses and provide less emphasis for restoration of sensitive species and damaged habitats than other alternatives and recommend much less acreage for wilderness designation.² (DEIS, Executive Summary, at 3-5 to 3-10.) In addition, they permit much more motorized use of the back country. (DEIS, Table 305.) The DEIS states that the Forest Service will carry out its mission of protecting against adverse impacts to the forests by more intensive management. (DEIS at 2-8.) At a time when the Forest Service concedes that it is facing multiple demands on its enforcement and management responsibilities in the face of an expanding visitor population, this seems like a remote possibility, yet it is one upon which the preferred alternatives rely. There are no details provided as to how it can more intensely manage the forests while its staff will be called upon to provide an ever increasing list of other services amid diminishing budgets. (DEIS, Executive Summary at 2-4.) Failure to provide sufficient information about how intensive management

²Alternative 5, which is something of a strawman, is the least environmentally protective and appears to exist primarily to provide an extreme contrast to the other alternatives.

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will be accomplished is not consistent with 36 C.F.R. section 219.11(a), which requires that a plan contain a practicable, effective, and efficient monitoring strategy, nor does it meet the requirements to provide sufficient information for decision makers, as required by NEPA.

Vehicle Use

The Forest Management Plans will allow much more use of roads in areas currently closed to motorized traffic. This will be accomplished in two ways. First, many more miles of trails for off-road vehicle use will be made available by the Forest Service. Second, currently commissioned forest roads that have not been maintained and have fallen into disrepair will be rehabilitated at taxpayer expense. The DEIS provides insufficient analysis to justify opening up so much land to motorized vehicles. Interestingly, the Forest Service's limited analysis of this issue shows that off-road vehicle use did not even make it on to the lists of most popular activity in any of the four forests. (DEIS, Table 423.)

The DEIS describes the many effects of vehicle use in the forests, stating that it "adversely affects species at risk by trampling plants and their habitat, killing or injuring small animals, harassing animals, initiating erosion features, accelerating erosion rates, increasing soil compaction, crushing burrows, damaging soil microbiotic crusts, introducing invasive nonnative plants and interrupting plant reproduction through the destruction of flowers and pollinator habitat." (DEIS at 3-81.) The Forest Service says it can't adequately enforce existing regulations. Despite the admitted adverse impacts and inadequate enforcement of current restrictions, the preferred alternatives would allow much more. (DEIS at 2-6; 2-8.) The preferred alternatives in the DEIS envision expanding the area available for motorized vehicle use, allowing thousands of more acres to be available for this noisy and biologically harmful recreational use. (DEIS, Table 249.)

The Forest Service suggests, without any studies to support its premise, that increasing the amount of trails available for motorized use will cut down on off-roading outside designated areas.³ Instead, increasing off-road trails is more likely to allow for entry into additional, adjacent non-authorized areas. Further, increasing the areas legally available for off-road vehicle use will only exacerbate the enforcement problem. The already overextended law enforcement staff of the Forest Service will be stretched that much further trying to enforce rules over a much greater acreage. Indeed, the draft Forest Management Plans actually provide that motorized trails that have been illegally carved out of the forests in defiance of present restrictions may become

³Handing over broad swaths of the forest to off-road vehicle use so that it will cut down on unlawful off-roading may be a little bit like raising the speed limit to reduce the number of speeding violations.

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legitimate trails, thereby rewarding illegal conduct. To date, having legal off-road vehicles trails in the forests has certainly not reduced the creation of illegal trails in the same or adjacent areas. The Forest Service provides no basis for its prediction that designating more trails will encourage off-road vehicle users to stick to designated areas and leave other areas alone. (DEIS 3-253.) The summary conclusions of the DEIS on increasing motorized trails do not comply with the NEPA's requirement of full public disclosure.

The assumption in the DEIS that the opening of new off-road vehicle trails and that the repair of currently non-maintained roads will aid fire suppression is based on flawed logic. The DEIS rejects alternative 6 in part because it would allow for fewer roads and thus make fire fighting more difficult.⁴ (DEIS, Executive Summary at 3-17.) Yet the DEIS admits that most fires start near roads. (DEIS at 3-99.) It seems reasonable to assume that more roads will lead to more fires, and thus to increased need for fire suppression in those areas where fires may be destructive to a healthy forest or nearby communities. The DEIS does not provide the analysis to explain the logical inconsistency.

A DEIS must permit those who do not participate in its preparation to understand and consider meaningfully the reasoning, premises, and data relied upon, and to permit a reasoned choice among different courses of action. (*Friends of the River v. FERC*, 720 F.2d. 93, 120 (D.C. Cir. 1983).) NEPA requires that decisions undertaken by federal agencies be fully informed and well-considered. (*Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 558 (1978).) Fire prevention and fire suppression are central themes of the DEIS and the Forest Management Plans. The failure to completely analyze the trade-off between roads as they benefit fire suppression versus the fact that the presence of roads and the starting of fires are closely associated, does not meet this well considered standard.

Failure to Provide a Full Range of Alternatives

NEPA requires agencies to the fullest extent possible to study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. (42 U.S.C. § 4332(2)(E).) An agency must look at every reasonable alternative, within the range dictated by the nature and scope of the proposed action. (*Idaho Conservation League v. Mumma*, 956 F.2d at 1520 (*supra*).) NEPA requires that the analysis will identify and assess reasonable alternatives to proposed actions in order to avoid or minimize adverse impacts on the environment. (40 C.F.R. § 1500.2(c).)

⁴All of the options provide for letting some fires burn to reinvigorate the forest, as long as they do not endanger the "wildland-urban interface."

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The Forest Service has not complied with NEPA in that it fails to provide a reasonable range of alternatives. The DEIS includes two alternatives that contain provisions that ensure they would have no likelihood of serious consideration by the Forest Service. Alternatives 5 and 6 are essentially extremes that are assured never to be implemented. Alternative 5 incorporates such an huge increase in the availability of motorized access, that it would be safe to assume that the Forest Service could never implement the plan and maintain its obligations to maintain or restore ecological sustainability of the national forest required by the planning guidelines contained at 36 C.F.R. section 219.2(a). Alternative 6, on the other hand, purports to incorporate the wishes of those who would like to see increased protection and conservation of resources, however, the Forest Service's Alternative 6 is also unacceptable because it would call for closing so many roads that "fire suppression effectiveness and firefighter access to roads and fuel breaks are decreased" in the alternative.⁵ (DEIS at 2-19). There is no reason why there could not have been an alternative combining the best features of Alternatives 4 and 6, allowing for recreational use and fire suppression, as well as a proactive approach to protecting forest resources.

This is the basic flaw of the DEIS. The Forest Service has created Alternative 6, which calls for the most protective and proactive management of the forest and the natural resources, and then loads it up with unnecessary attributes. This alternative does not need to be constructed that way. The alternative could have been structured to prevent the expansion of illegal off-road vehicle trails, and to prevent reopening of unnecessary and non-maintained roads, while at the same time providing for sufficient roads to assist fire suppression. The Forest Service seems to have saddled the most environmentally friendly alternative, Alternative 6, with aspects that will make it unacceptable from a fire-fighting point of view so it will not need to choose it. Instead, the DEIS could have just as easily drafted the alternative to allow roads necessary for fire protection. Its failure to do so violates the NEPA requirement that an EIS consider a full range of alternatives. While an agency is not required to analyze alternatives that do not meet its proposed goal, an agency cannot narrowly define its purpose in order to exclude reasonable alternatives. (*Border Power Plant Working Group v. Department of Energy*, 260 F.Supp.2d 997, 1030 (S.D. Cal. 2003).)

Special Areas and Species

The preferred alternatives include a recommended wilderness designation for only a tiny proportion of the area that has been discussed at public meetings. Data was presented to the Forest Service that indicated an additional one million acres were appropriate for wilderness status. The DEIS does not adequately defend the rationale underlying the choice to not include the appropriate additional acreage that was suggested other than expressing its emphasis on the

⁵67% of the existing roads would be closed. (DEIS, Executive Summary at 3-9.)

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forests for recreational use. (DEIS at 2-12; 3-253 to 3-254.) NEPA requires the EIS to contain a reasonably thorough discussion of the significant aspects of the probable consequences of an action. (*Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997).) We do not believe this DEIS adequately discusses the justification for such a small recommendation of lands eligible for wilderness designation. The lack of information about the reasons for not choosing more wilderness acreage leaves the decision makers without the basic tools they need to decide the fate of the forests.

While the DEIS determines that a few streams in the Los Padres National Forest are suitable for wild and scenic river status, it does not make any suitability determinations for streams in the other three forests and it gives no reason for its failure to complete suitability studies in the other forests. (DEIS at 2-14; Appendices at 69.) In excluding these areas, the Forest Service has not carried out its responsibilities under the Wild and Scenic Rivers Act. The Act, at 16 U.S.C. section 1283(a), requires federal agencies to consider the potential for wild and scenic rivers in their planning processes. The forest planning effort is not complete until the role of these water bodies in the future of the forest has been determined. The public has been done a disservice by the lack of meaningful information on the other streams that might be eligible under the Act.

The DEIS is also deficient in its analysis relating to the California Condor. As the Forest Service is well-aware, it is only through the superhuman efforts of the U.S. Fish and Wildlife's captive breeding program that it may be possible to bring this species back from the brink of extinction. The Forest Service, cursorily in one sentence, recognizes that power lines supporting new proposed developments may pose a problem. (Los Padres National Forest (LPNF) Strategy - 41; 65.) Having briefly identified part of the impact, however, the Forest Service fails to complete its obligations under NEPA by first, failing to fully analyze all possible impacts to the California Condor from anticipated developments in the forest, and then by failing to appropriately identify and analyze measures to mitigate the impacts. The need for public education at condor areas and prohibiting off-road vehicle use near condor sites is discussed as possible mitigation. However, these are listed only in sentence fragments rather than in an integrated, thoughtful analysis. (LPNF Strategy - 44; 57.) Such an analysis is required by both law and by the need to respect both the species and the efforts of the federal government and others that have already gone into bringing the California Condor back from the edge of extinction.

Conclusion

The DEIS states that these plans do not serve as the basis for site specific projects. (DEIS at 1-6.) This does not excuse addressing with some degree of depth the impacts that can be

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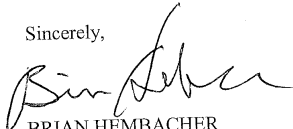
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readily ascertained. It is of course true that predicting the future of the southern California forests requires some prognostication, and an EIS necessarily involves some degree of forecasting. However, if discussion of environmental consequences can be deferred based on a promise to perform a comparable analysis in connection with some later site-specific projects, no environmental consequences would ever need to be addressed in an EIS. (*Kern v. United States BLM*, 284 F.3d 1062, 1072 (9th Cir. 2002).) The Ninth Circuit has made it clear that where impacts are reasonably foreseeable, it is not appropriate to defer analysis to a future date. (*Neighbors of Cudahy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380 (9th Cir. 1998).) This is true even where, as here, the EIS at issue is the first tier environmental document of a multi-stage process. The standards set forth in *State of California v. Block*, 690 F.2d 753 (9th Cir. 1982) are applicable here. There, plaintiffs challenged a decision to designate 36 million acres of national forest land as "nonwilderness" on the grounds that the EIS did not contain enough site-specific data to support the designation. (*Id.* at 760.) The Forest Service argued that, since the EIS described only the first step of a multi-step national project, a generalized discussion of environmental impact was sufficient. (*Id.* at 761-2.) The court disagreed, on the basis that the decision to commit the areas to nonwilderness status would make an irreversible and irretrievable commitment of resources that required environmental scrutiny at the time the decision is made to constrain future choices. (*Id.* at 762-3.)

The DEIS is deficient in that it does not fully explain the rationale nor describe the impacts resulting in its choice of the preferred alternatives that call for less wilderness and more off-road vehicle use. Presently, there is insufficient detail to make an informed decision about the long term strategies the forests should adopt. We believe that the EIS should be revised to thoroughly discuss all these issues. We would suggest that once it has properly considered the information required by NEPA, the Forest Service should reconsider its choice as to preferred alternatives to ensure that it complies with its regulatory obligation to protect forest ecology.

If you or your staff have questions regarding these comments, please contact Deputy Attorneys General Kathryn Egolf at 213-897-0628, or Brian Hembacher at 213-897-2638.

Sincerely,



BRIAN HEMBACHER
Deputy Attorney General

For BILL LOCKYER
Attorney General

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cc Matt Rodriguez
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*Flex your power!
Be energy efficient!*

10 August 2004

Ronald L. Pugh
Program Leader
Southern California Forest Plan Revisions
USDA FS Content Analysis Center
PO Box 22777
Salt Lake City, UT 84122

Dear Mr. Pugh,

The State of California Department of Transportation (Caltrans) has submitted two applications to the Cleveland National Forest for Special Use Permits to establish communications sites in the forest. These applications are "on hold" pending the outcome of the revision of the LRMPs for the Southern California Forests. An effort has been made to analyze the alternatives in the current draft version of the Plan to determine the implications of each alternative for future communications sites. Given the lack of specificity of the text and the low resolution of the planning maps, no reliable conclusions can be derived. The only comments that can be offered by Caltrans must be based on general principles, the concept of unintended consequences, and common sense.

The forests of Southern California exist in the context of an intensely urbanized region. The region's highway infrastructure is a component of the linkage between urban centers and the surrounding and interspersed forests. The relevance of the highway system to the forest is discussed in several of the place descriptions in the draft plan. The highway system forms the primary conduit for public access to the forest and influences the public perception of the overall quality of experience with the forest. Highways form the logistical and commercial conduits necessary to sustain the population centers within the forests. Highways through the forest have become primary commuter arterials between urban centers. Highways enable the deployment of law enforcement and public safety assets to the forests during adverse circumstances. Highways are also the evacuation routes during those circumstances.

"Caltrans improves mobility across California"

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Highways are not an indelible feature of any landform. To be sustainable, highways require constant maintenance and improvement. Failure to provide the required maintenance over a period of time will result in a degradation in the level of service provided by the highway. This is especially true in mountainous terrain, where highways cling to mountain slopes and canyon walls. Eventually degradation of the roadbed, especially if coupled with natural stresses such as damage from wildfires and heavy precipitation, can result in catastrophic failure of the highway and the adjacent terrain. The tragic recent history of Highway 18 near Waterman Canyon in the San Bernardino National Forest is offered as prima facie evidence of the validity of this contention.

The trend in state government seems to be to require that agencies deliver the traditional levels of public service despite reductions in staffing and financial support. The only way that agencies can meet these demands is to constantly increase operational efficiency. One component of operational efficiency is the timely flow of information. In the context of highway operation and maintenance, timely information flow requires an extensive and sophisticated radio communications system. Few public agency budgets can support the acquisition and installation of a large communications system in one fiscal cycle. Communications systems evolve over time as previous generations of hardware are upgraded or replaced. The first components to be commissioned are those with the most advantageous cost/benefit ratios. The last components to be installed are those that must overcome the most difficult challenges.

Recent trends in the Rules and Regulations of the Federal Communications Commission and technological trends in the communications industry have caused a migration of public safety radio systems to higher frequencies. The propagation characteristics of these higher frequencies and the topography of Southern California require that radio systems employ more sites to provide coverage of the same geographic area as previous systems. To minimize the number of sites required to construct a functional system, agencies attempt to install sites at the most favorable locations. Providing radio coverage to a highway that traverses mountainous terrain, including deep valleys and canyons, requires a high elevation site overlooking the highway. This is an inconvenient but incontrovertible fact.

The designation of Sitton Peak and Highpoint Lookout as the preferred locations of future communications sites is not the result of a cavalier decision making process. Caltrans recognizes that Sitton Peak especially is a unique, sensitive, and fragile environment. However, Sitton Peak is uniquely situated to provide radio coverage along the entire section of the Ortega Highway from 15 to El Cariso. Caltrans contends that a small communications site employing the appropriate technology is not incompatible with the environment of Sitton Peak. A similar analysis justifies the choice of Highpoint Lookout for coverage of Highways 74, 79, and 371.

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Caltrans is concerned that the current emphasis on conservation and protection of biodiversity will overwhelm consideration of infrastructure development in contravention of the broad public purpose. We contend that the public expects government agencies at all levels to cooperate in the development and implementation of policies that achieve a proper balance between competing priorities. We further contend that approval of the Caltrans applications for these sites promotes that objective.

Sincerely,



William V. Wray
Telecommunications Systems Manager
Districts 8 & 9

c: Ferdinand Milanes

Appendix N. San Dimas Experimental Forest

Experimental Forest Background and Status

Experimental forests and ranges provide lands for conducting research that serves as a basis for the management of forests and rangelands.

The San Dimas Experimental Forest (SDEF) is a protected field laboratory under the joint management of Pacific Southwest Research Station and the Angeles National Forest for studies of hydrology, fire, and other topics relating to the ecology of chaparral and related ecosystems. Located in the San Gabriel Mountains north of Glendora, it covers 17,163 acres and has been closed to the general public, except under special written permit, since establishment in January 1933.

The San Dimas Experimental Forest is also a Biosphere Reserve under UNESCO's Man and the Biosphere Program. It contains the 1,370-acre Fern Canyon Research Natural Area (RNA). The Williams Fire burned through most of the SDEF in September 2002, destroying several experimental plots and structures. Most of the buildings at the Tanbark Flats headquarters were saved, but the plant cover and instrumentation at the lysimeters - unique in-ground facilities originally built to measure water movement through the soil - were mostly lost. The archived soil samples taken when the lysimeters were filled in 1937, and the building that housed them, were also lost. The Pacific Southwest Research Station and Angeles National Forest will implement the Joint management plan for the SDEF, which will be tiered to the land management plan revision. The link to the SDEF and management plan is located at the web page: www.rfl.psw.fs.fed.us/prefire/sdefhtml/sdefmanplan.html.

There are a number of other uses within the SDEF, including 17 recreation residences in the Main and West Fork San Dimas tracts, several apiaries, and a communications site. These uses are authorized by special-use permit and access is controlled.

The primary objective at the San Dimas Experimental Forest is long-term environmental monitoring. This includes the elements of:

- Climate and weather
- Stream-water discharge
- Stream-water nitrate concentration and discharge
- Remote sensing
- Avian populations
- Soil erosion
- Vegetation biomass

The experimental forest will be managed to retain important scientific research values according to its Establishment Record, management plan and land management plan.

No additional experimental forests are being proposed in the land management plan revision. The San Dimas Experimental Forest would be reduced in size in Alternatives 2 and 3 due to recommended wilderness.

Appendix O. Pesticide Risk Assessment

Assumptions Concerning Pesticide Use in Forest Management

This Risk Assessment addresses the general effects of pesticides that currently are being used, or likely will be used, for national forest management activities related to the forest plan.

- Where fuelbreaks and Wildland/Urban Interface (WUI) Defense zones are constructed, herbicides (primarily glyphosate [Round-up] and its variants) will be used to kill shrub resprouts following initial construction. Over time, fuelbreaks will be maintained with prescribed fire, and WUI Defense and Threat zones will be maintained with a combination of herbicides and prescribed fire.
- Carbaryl may be used to prevent bark beetle infestations.
- A registered borate fungicide (such as Sporax) will be applied to cut tree stumps to prevent infections by *Heterobasidion annosum* (a fungus).
- Trichlopyr and glyphosate herbicides may be used to control invasive plant species.
- Projects proposing the use of pesticides will require site-specific environmental analysis, documented in the appropriate NEPA document.
- To help meet water quality standards to protect Beneficial Uses of Water, Best Management Practices (BMPs) would be applied to each pesticide-related project.
- The Forest Service acknowledges that members of the public (as well as certain groups) may not support the use of pesticides on National Forest System lands.

Role of Riparian Buffers in Reducing Sedimentation and Chemical Contamination of Streams

Vegetation management activities in close proximity to streams can significantly affect stream channel processes and conditions. Thus, by controlling activities within streamside management zones, the amount of chemical contaminants reaching water bodies can be significantly reduced. For instance, Vowell (2001), in summarizing results of monitoring effectiveness of BMPs in Florida, stated "... the primary [streamside management] zone was considered [to be] the most critical BMP for protecting water quality and ecosystem health." The National Research Council (NRC) states: "Under proper conditions, ... buffers are highly effective in removing a variety of pollutants from overland and shallow subsurface flow" (NRC 2003). The NRC (2003) further notes that "... if properly installed and maintained, buffers can have a high capacity to remove non-point source pollutants from upslope activities—as much as 50 percent of the nutrients and pesticides in surface water runoff, 60 percent of certain pathogens, and 75 percent of the sediment load."

A buffer's efficacy for mitigating chemical entry into water bodies varies with an array of site-specific factors like weather conditions, properties of the chemical, pesticide retention, degradation processes and application method (Comerford and others 1992, NRC 2003). Nevertheless, for sites in the southern United States, buffers as narrow as 15 m have been "... effective in minimizing pesticide residue contamination of stream flow" (Neary and others 1993).

Forest Service operations using chemical, mechanical, and/or prescribed fire treatments typically incorporate streamside buffer zones (USDA Forest Service 2000e; see standard S47 in Part 3 of the forest plans). Moreover, if treatment areas are relatively distant from water bodies, the distance buffers against in-channel effects and pesticide contamination. Therefore, the following analysis of potential pesticide effects on water quality assumes that maintaining distance from water bodies minimizes or eliminates water quality impacts.

Pesticide Detection and Drinking Water Standards

To help meet water quality standards to protect Beneficial Uses of Water, BMPs would be applied to each pesticide-related project. Site-specific practices would be developed from Region 5 BMPs for pesticide use and vegetation management. All projects would be designed to comply with water quality standards. More importantly, individual projects using pesticides will undergo an environmental analysis.

Pesticides that are applied on foliage, bole, stump and litter surfaces, or directly onto the soil either disappear in the soil through degradation, transport, or a combination of both or they move into water bodies—a topic termed *environmental fate* (see below). Following application, pesticide degradation takes place by hydrolysis, photo-decomposition, and microbial metabolism. Over time, degradation reduces the amount of the pesticide that is available for off-site transport by atmospheric drift, foliar and stem wash off, plant uptake, soil leaching, volatilization, surface runoff, and subsurface flow (Neary and others 1993).

Precipitation, evaporation, topography, decomposition rates, soil-water properties, and characteristics of individual pesticides make site-specific predictions about the behavior of a given pesticide problematic (Michael and Neary 1993). Of these variables, timing and magnitude of precipitation are particularly relevant to translocation of pesticides to surface waters. Post-application monitoring often shows pulses of chemicals in stream flows that coincide with rainfall events. Specifically, “[T]he greatest tendency for transport of pesticides ... occurs during the initial storms following spray application. If the intensity of the initial precipitation is not sufficient to cause movement across the soil, the danger of pesticide movement is essentially eliminated, especially for chemicals that degrade relatively quickly...” (Evans and Duseja 1973).

General Properties of Pesticides with Respect to Soil and Water Contamination

Pesticides that reach surface and sub-surface waters do so primarily through runoff or by leaching. Runoff is the water-borne transport of compounds over the earth’s surface, whereas leaching is the process by which compounds move through the soil by percolation of rainwater or snowmelt.

Pesticides most likely to contaminate waters through leaching or runoff have the following characteristics: low soil adsorptivity, relatively high water solubility, a slow rate of degradation, or a high application rate (Green and others 2001; Trautmann and others, undated). Adsorptivity to soil clay and organic matter is critical, because multi-month persistence of a pesticide increases the likelihood of soil and water contamination. Moreover, pesticides with high adsorption coefficients may show up where there is substantial sediment production and movement (as opposed to dissolved chemicals in runoff); however, it should be emphasized that these rules apply only generally to site-specific situations. Factors such as temperature variability and soil acidity, along with other site conditions like depth to groundwater, preclude simple generalizations about the degradation and transport of pesticides through soil to surface and ground waters.

Influence of Application Method on Environmental Fate

Compared to most types of pesticide application, ground (backpack) application for WUI zone and fuelbreak construction and noxious weed control has a low probability of contaminating surface waters. This is the primary application technique for national forest projects. In contrast, broadcast aerial application poses a considerably higher risk of accidental deposition of pesticides onto surface waters or otherwise causing chemical drift beyond the target area. Michael and Neary (1993) noted, “... surface waters are more likely to be contaminated by aerial applications and least likely to be contaminated by stem injection.” However, aerial application is rarely used in Region 5 for national forest vegetation management.

Influence of Pesticide Type on Environmental Fate

Herbicides typically are *foliar active* (intended to be taken up by the target plants through their leaves and stems) or *soil active* (taken up by the target plants through their root systems). Foliar-active pesticides generally are less likely to leach into subsurface waters than soil-applied chemicals because foliar chemicals, unless washed off the plant, remain in or on plant tissue without immediately entering the soil (USDA Forest Service 1991). Not surprisingly, water quality monitoring of soil-applied pesticides often shows higher surface water concentrations than those applied to foliage. Carbaryl and Sporax (being applied to the plant and not the soil) would perform similar to foliar applied herbicides in terms of leaching potential.

Table O-1. Selected properties of pesticides proposed for WUI maintenance.

Pesticide	Field Half Life (days) ¹	Soil Sorption (mg/L)	Water Solubility (mg/L)	Monitoring Results	Leaching Potential ¹
Carbaryl	4-5	0.177-0.251	Very Low 40	Widely Detected, but only in Urban and Agricultural Settings	Low to non-existent
Glyphosate	47	24000	High 1200	Non-Detection	Low-Intermediate
Sporax	No data	Occurs naturally in the soil as boron	High	Non-Detection	Non-existent
Triclopyr	46	780	Low 440	Seldom Detected	Intermediate

¹Field half-life, soil sorption, and leaching potential are taken primarily from Wauchope and others (1992, cited in Seelig 1994). Half-life and sorption values are variably quantified in the literature, and the values cited here are central tendencies for these parameters.

Properties of the Pesticides Likely To Be Used in National Forest Management

Selected properties of the four chemicals are summarized above (Table O-1). *Field half life* is the time in days in which one-half of a volume of the chemical breaks down. *Soil absorption* gages the binding of chemical to soil particles. The tabulated sorption values are indicated by the coefficient K_{oc} , which incorporates effects of organic carbon on chemical adsorption. Higher values indicate greater pesticide adsorption to soil and therefore less tendency for movement into water. *Water solubility* is the amount of a chemical that dissolves in a fixed volume of water; higher water solubility values increase the likelihood of chemical detection in the water. *Monitoring results* indicate detections in streams in forested environments when streamside buffers and ground application have been used. *Leaching potential* is the likelihood of downward translocation of the chemical in percolating groundwater, based on the Hornsby Index: the ratio of soil sorption (K_{oc}) to field half-life, multiplied by 10 (Seelig 1994). Leaching potential values do not incorporate operational considerations like application rate, local soil conditions, and effectiveness of buffers in ameliorating pesticide concentrations in surface or ground waters, nor do they comprehensively address interactions among these factors.

Environmental Fates of Selected Pesticides

Carbaryl: Carbaryl insecticide is widely used on agricultural crops across the United States. In the national forest setting, it is used to prevent bark beetle infestations in conifers. Typically, it is applied from the ground to the trunks of individual high-value trees, usually in developed sites such as campgrounds or around administrative sites. In 2004, the San Bernardino and Angeles National Forests sprayed around 1,000 trees with carbaryl. This unusually high number of treated trees was associated with unprecedented drought-caused mortality and subsequent beetle infestations. Carbaryl dissipates in the soil environment by abiotic and microbially-mediated degradation. Carbaryl degrades fairly rapidly by microbial processes under aerobic conditions and more slowly under anaerobic conditions. Carbaryl is the

second most common pesticide found in water samples nation-wide. Streams draining urban areas showed more frequent detections and higher concentrations than streams draining agricultural or mixed land use areas; however, there has been little post-application monitoring of carbaryl in forested environments. In one study, carbaryl applied to a pine forest in Oregon was not detected in the water or sediments of a pond 50 feet from the application site (USDA Forest Service 2004).

Glyphosate: Extensive water quality monitoring in California forest streams suggests that ground-applied glyphosate (an herbicide) would not be detected in streams if streamside buffers are in place. Foliar application is the primary mode of use of this chemical. Glyphosate is moderately persistent in soil; the preponderance of documented half-lives range from 25 days to 4 months (Table 1). A major metabolite of glyphosate (AMPA) behaves similarly to glyphosate in soil and water. From 103 samples collected between 1991 and 1999 from various national forests in the Sierra Nevada of California (USDA Forest Service 2001a), Bakke concluded that by using buffers in combination with ground application, none of the samples had operationally detectable concentrations of glyphosate. However, glyphosate was detected at low levels (15 ppb) in a noxious weed project within a southern California riparian zone (USDA Forest Service 2001a). In a similar study in the north coast of California of 108 stream samples collected after ground and aerial application, none had detectable levels of glyphosate (Jones and Wofford 1999, Jones and others 2000a). Furthermore, extensive monitoring of forest streams in central and northern California has not detected quantifiable amounts of glyphosate.

Sporax: This fungicide is applied to freshly-cut stumps to prevent colonization by spores of *Heterobasidion annosum*, a root-rot fungus that can spread to adjacent trees. The area of treatment is usually small, equivalent to the total basal area of cut trees in the project area. Although Sporax application to stumps is a long-standing forestry practice, there is little research on its penetration into the stump or its effects on the surrounding environment. Because boron is so widely distributed and indistinguishable analytically from the borates that enter the environment because of human activity, it is very difficult to track specific sources in the environment. Informal studies by Dost at three sites in Oregon showed low (less than 1 inch) penetration of boron into the stumps; no treatment-related increases of boron in adjacent foliage, litter or soil; and that migration of boron away from the treatment site into water sources was unlikely (Dost and others 1996). Deer confined to experimental treatment areas were uninterested and unaffected by borax-treated stumps (Campbell and others, undated, as referenced in Dost and others 1996).

Triclopyr: With establishment of adequate streamside buffers, triclopyr (an herbicide) is typically not detected in forestry applications. Foliar application is the primary mode of use of this chemical. Triclopyr variably persists in the soil, with minimal mobility and minimal leaching evident in field studies. Little is known about concentrations of this chemical in groundwaters in forested areas, although a recent survey of groundwaters in primarily agricultural and urban areas at over 2,600 sites across the United States did not detect triclopyr.

Pesticide Water Quality Standards and Project-level Analysis

Noxious weed treatments and the WUI zone and fuelbreak construction will comply with all water quality standards. A project-level environmental analysis is required prior to any decision to use pesticides, and the analysis would describe those practices necessary to prevent violation of these standards. Furthermore, site-specific project planning also would invoke the BMPs necessary to achieve any required standards.

Drinking Water Standards and Health Advisories

Two sets of criteria are commonly used to assess the chemical quality of drinking water for human health purposes. These are *health advisories* developed by the U.S. Environmental Protection Agency (US EPA) and State of California *drinking water standards*.

Health Advisories

US EPA health advisories are intended to establish "... acceptable drinking water levels for a chemical substance based on health effects information; a Health Advisory is not a legally enforceable Federal standard, but serves as technical guidance to assist Federal, State, and local officials." US EPA lists health advisory information for glyphosate proposed for use in WUI maintenance (table 3-36 in US EPA 2002a).

Definitions for the criteria used are (US EPA 2002a):

One-Day Health Advisory: "The concentration of a chemical in drinking water that is not expected to cause any adverse non-carcinogenic effects for up to one day of exposure. The One-Day HA is normally designed to protect a 10-kg child consuming 1 liter of water per day."

Ten-Day Health Advisory: "The concentration of a chemical in drinking water that is not expected to cause any adverse non-carcinogenic effects for up to ten days of exposure. The Ten-Day HA is also normally designed to protect a 10-kg child consuming 1 liter of water per day."

Drinking Water Equivalent Level (DWEL) Health Advisory: "a lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from drinking water."

Lifetime Health Advisory: "The concentration of a chemical in drinking water that is not expected to cause any adverse non-carcinogenic effects for a lifetime of exposure. The Lifetime HA is based on exposure of a 70-kg adult consuming two liters of water per day."

Table 2. Health advisory information for carbaryl, glyphosate, sporax and trichlopyr.

¹Sporax: US EPA has no standards for borates, these values are for boron.

²US EPA (1998b, c) noted that although trichlopyr is not currently regulated under the Safe Drinking Water Act, a lifetime health advisory value for trichlopyr is estimated at 350 ppb.

California Drinking Water Standards

California drinking water standards (State of California 2000a) refer to one of the four pesticides proposed for use in WUI maintenance: glyphosate. California Department of Health Services (DHS), Division of Drinking Water (Redding, California) confirmed on July 15, 2002 that this is the only one pesticide of the four for which State standards are written (Watson per. comm., as referenced in USDA Forest Service 2003).

For glyphosate, Section 64431, California Code of Regulations (State of California 2000a) states:

DHS has set the drinking water standard for glyphosate at 0.7 part per million (ppm) to protect against the risk of adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to glyphosate.

Pesticide Analysis

Aspects of glyphosate and trichlopyr for WUI zone maintenance and noxious weed removal addressed by the drinking water standards and health advisories are discussed below.

Glyphosate Analysis

Only one of over 230 surface water samples from forestry projects in California had detectable concentration of glyphosate. This 15 ppb sample was one of 12 collected during monitoring of glyphosate treatment of noxious weeds within a riparian zone (USDA Forest Service 2001a). Glyphosate monitoring in California forest environments suggests that concentrations in surface waters are highly unlikely to reach the 0.7 ppm (700 ppb) California drinking water and US EPA Lifetime Health Advisory value. This non-detection resulted after establishing buffer zones in riparian zones.

Triclopyr Analysis

A few of the dozens of samples collected for forestry projects in the Sierra Nevada and north coast region of California in the 1990s have had detectable concentrations of triclopyr. The highest detected concentration (82 ppb) was from a non-buffered ephemeral stream. No other sample had a triclopyr concentration above 10 ppb. None of the concentrations approached the triclopyr Lifetime Health Advisory value of 350 ppb, suggesting a very low risk that ground-based application of triclopyr, with buffers and execution of other BMPs, would result in triclopyr concentrations exceeding the Health Advisory value (USDA Forest Service 2001a).

Direct and Indirect Effects of Pesticides

Determinations about the environmental fate of individual pesticides used in this report are based largely on secondary sources of information that do not always specify important details, such as type and rate of pesticide application or climatic, soil, and other factors that can strongly influence pesticide persistence and concentrations in soil and water. For instance, “ground application” can range from relatively controlled “cut and daub” techniques to more spatially dispersed tractor spraying. Secondary sources also do not always distinguish among the environments in which the pesticides were applied, notably agricultural versus forestry settings. Differences in soil types, climatic regimes, and management activities between forest and cropland environments make extrapolation of results from one environment (croplands) to the other (forests) somewhat tenuous.

Movement of chemicals to and through subsurface and surface waters also depends on the degree of dilution and the scale of pesticide application. For instance, some information sources do not specify the size of the treatment area in relation to watershed size. A 10-acre (4 ha) application in a 100-acre (40 ha) watershed would produce different hydrological effects than a 10-acre (4 ha) application in a 1,000-acre (400 ha) watershed. Finally, the use of buffer zones or the institution of other management practices (BMPs) to reduce water contamination is not always distinguished in the secondary sources.

There are potentially increased risks of pesticide entering surface water through overland flow when applied to slopes greater than 30 percent; however, installation of buffers and implementation of other BMPs would reduce the likelihood of entry into surface waters. Dyrness (1969, cited in US EPA 1977) suggested that length and steepness of slope have less influence on pollution from forested watersheds because little or no surface runoff takes place in forests, except where soils have been severely disturbed. Thus, the highest risk of pesticides entering surface water is in disturbed soils or in steeply sloping riparian zones.

The following determinations of operational detectability of pesticides in surface waters of the project area are premised on the following:

- full implementation of all relevant BMPs, including site-specific buffer width determinations.
- full implementation of standard S47 (e.g., 300-ft buffers on perennial streams).
- operational water quality monitoring using routinely available laboratory equipment and procedures that are readily reproducible.
- ground backpack application.

In addition to WUI zone maintenance projects, other projects on National Forest System lands that could involve pesticide use are expected to be small and scattered, primarily for treatment of isolated populations of invasive or noxious weeds. Because ground application of glyphosate and triclopyr using BMPs is not anticipated to produce detectable concentrations of these pesticides in surface waters, no cumulative water quality effects are anticipated from these types of restoration projects.

The proposed pesticide treatments are not expected to have any significant adverse direct effects on existing ground cover and thus existing erosion rates. Existing ground cover (litter and duff) could be

reduced slightly if shrub canopy is reduced but would continue to provide an adequate amount of ground cover. Vegetation killed by pesticides would continue to provide a canopy cover until the leaves fall. Leaf fall would add to the existing ground cover. Some roots would die but would still be in place to hold soil, probably for several years. New vegetation would be expected to begin growing on the treated areas within the first year after treatment. In the long term, a natural litter layer would re-established.

Some ephemeral drainages have a high potential for the occurrence of debris flows or mass failures as a result of loss of vegetative cover caused by wildland fire. Brush cover that becomes established soon after fires stabilize these drainages. The reduction in live brush cover due to the use of pesticides would slightly increase the potential for debris flows/mass failure to re-occur. To prevent this effect, buffers could be established for specific projects if the treatment area is otherwise within 328 feet (100 m) of the channel. This no-spray zone would allow retention of live roots in the most sensitive portion of these channels, which would bind soils and reduce the potential for slope failure. Under normal conditions, no further failures should occur from the reduction in brush cover caused by adjacent pesticide treatment.

Where nitrogen-fixing plants are treated with pesticide, a small, short-term reduction in the amount of nitrogen added to the soil may result. The potential amount of nitrogen fixation foregone is difficult to estimate but is not expected to be significant. Effects on nitrogen fixation are expected to be minimal because: (1) not all nitrogen-fixing plants would be treated, (2) some of the nitrogen fixing plants would die back but the roots would remain alive and would resprout, (3) new nitrogen fixing plants are expected to germinate and begin to re-occupy the treated areas within the first year, (4) nitrogen contained in the treated vegetation would become available to the soil ecosystem as the leaves fall to the ground and are decomposed, (5) water availability is more of a limiting factor in plant growth than nitrogen fixation in many eastside Sierra locations, and (6) nitrogen levels in soil may already be sufficient for normal growth of plants.

The Forest Service would work closely with local California regional water quality control boards to assure that water quality standards are met.

Summaries from Human and Ecological Risk Assessments

Glyphosate

The human risk characterization for both workers and members of the general public from glyphosate use are reasonably consistent and unambiguous. For both groups, there is very little indication of any potential risk at typical application rates. Some of the short-term accidental exposure scenarios do show risks of acute effects, which point out the need to develop BMPs and other practices to minimize chances of a spill into streams or ponds. For members of the general public, none of the longer-term exposure scenarios exceed or even approach a level of concern. Although there are several uncertainties in the longer-term exposure assessments for the general public, the risk characterization is relatively unambiguous; based on the available information and under the foreseeable conditions of application and exposure, there is no route of exposure or exposure scenario suggesting that the general public will be at risk from longer-term exposure to glyphosate (SERA 2003a).

The current ecological risk assessment for glyphosate generally supports the conclusions reached by US EPA that based on the current data effects to birds, mammals, fish and invertebrates are minimal. The likelihood of direct acute toxic effects on aquatic invertebrates or longer-term direct effects on any fish species seems extremely remote based on central estimates of the hazard quotient and unlikely based on upper ranges of the hazard quotient. Aquatic plants appear to be somewhat less sensitive to glyphosate than the most sensitive aquatic animals. There is no indication that adverse effects on aquatic plants are plausible. For relatively tolerant nontarget species of plants, there is no indication that glyphosate is likely to result in damage at distances as close as 25 feet from the application site. For sensitive species at the upper range of application rates, there is a modest excursion above the level of no effect at offsite distances of 100 feet or less; however, it should be noted that all of these drift estimates are based on low-

boom ground sprays. Many applications of glyphosate are conducted by directed foliar applications using backpacks. In such cases, little if any damage due to drift would be anticipated. Nontarget terrestrial plants are not likely to be affected by runoff of glyphosate under any conditions (SERA 2003a).

Triclopyr

There is no indication that workers will be subject to hazardous levels of triclopyr at typical application rates and under typical exposure conditions. Nonetheless, at the upper range of exposures, worker risks exceed the level of concern based on the chronic RfD but not the acute RfD. Thus, for workers who may apply triclopyr repeatedly over a period of several weeks or longer, it is important to ensure that work practices involve reasonably protective procedures to avoid the upper extremes of potential exposure. For members of the general public, the risk characterization is relatively unambiguous at typical application rates; based on the available information and under the foreseeable conditions of exposure, there is no route of exposure or exposure scenario suggesting that the general public will be at risk from longer-term exposure to triclopyr. Similar to glyphosate, several of the short-term accidental scenarios would indicate increased levels of risk to the public. Measures would be designed to minimize the chances of public exposure during the time of application and for a period of time after (SERA 2003b).

The current ecological risk assessment for triclopyr is consistent with the risk characterization given by US EPA indicating that contaminated vegetation is the primary concern in the use of triclopyr. For terrestrial mammals, the central estimates of hazard quotients do not exceed the level of concern for any exposure scenarios. At the upper range of exposures, the hazard quotients exceed the level of concern for large mammals and large birds consuming contaminated vegetation exclusively at the application site. Some effects may be anticipated on nontarget vegetation under some conditions. Because of the relatively low toxicity of the amine formulation of triclopyr compared to the ester formulation of triclopyr, the risk characterization for the amine is much less severe than that of the ester. The potential impact of offsite drift of triclopyr varies substantially with the application rate. At an application rate of 1 lb/acre, potentially damaging exposures could occur within about 100 feet of the application site. The risk characterization for aquatic organisms differs for the amine formulation and the ester formulation too. For the amine, risks to aquatic species are low over the entire range of application rates that may be used in Forest Service programs. The ester is projected to be somewhat more hazardous when used near bodies of water where runoff to open water may occur. At an application rate of 1 lb/acre, the level of concern for acute exposure to aquatic plants is exceeded at the upper range of projected concentrations (SERA 2003b).

Carbaryl

For carbaryl, the hazard for the applicator when applying it as a tree stem treatment can represent some fairly high exposure rates for the applicator. At low exposures, there is a very low risk of transient cholinesterase (ChE) inhibition, likely unnoticed by the worker. At the upper exposure levels more serious ChE inhibition is likely. It is important that worker exposures be minimized through good industrial hygiene practices, as well as positioning themselves to avoid the splash-back from the bark application. Although there are several uncertainties in the longer-term exposure assessments for the general public, the hazards associated with the longer-term exposures are sufficiently below a level of concern that the risk characterization is relatively unambiguous: there is no route of exposure or scenario suggesting that the general public will be at any substantial risk from longer-term exposure to carbaryl (USDA Forest Service 2004).

The current ecological risk assessment for carbaryl shows that at the typical rate of application, and using the average exposure factors, the acute scenarios involving direct spray and feeding on vegetation by a large mammal have hazard quotients that exceed unity. Because of the disturbance that will result due to the application equipment and personnel, it is unlikely that any animals will remain in the vicinity of the trees that are being sprayed, so it is likely that doses and resulting hazard quotients would be much lower; however, if animals were exposed to carbaryl at such levels, it is likely that they would be adversely

affected, with neurological effects the most likely outcome. Large mammals that might graze exclusively in the immediate vicinity of treated trees would be at risk of acute effects; however, there is nothing in the carbaryl spray activity that would tend to draw such animals into the area. None of the other terrestrial vertebrate typical acute exposure scenarios would result in hazard quotients that exceed unity. None of the chronic exposure scenarios at the typical application rate would result in hazard quotients that exceed unity. Terrestrial animals that might contact treated vegetation (rather than be directly sprayed) would be expected to see about 16 percent of the dose of directly sprayed animals. This would effectively reduce the hazard quotient of small mammals to levels below unity or to levels in the realm where transitory inhibition of ChE may occur. This type of dermal exposure is much more likely in this bole application scenario. Terrestrial invertebrates (such as honeybees) are very sensitive to carbaryl, and would experience mortality if directly sprayed or exposed to splashback from the spray applied to the tree boles (USDA Forest Service 2004).

Even though carbaryl has been classified as practically nontoxic to birds on an acute exposure basis, there is uncertainty regarding the sensitivity of smaller, passerine birds. Open literature on smaller birds and incidents involving blackbirds and starlings suggest that perching birds may be more sensitive than species involved in standard toxicity tests (USDA Forest Service 2004).

Exposures to fish and aquatic plants result in hazard quotients below unity for every scenario that is developed in this risk assessment. Aquatic invertebrates are very sensitive to carbaryl, so hazard quotients for typical application rates are at or exceed unity for all exposure levels. The duration of an exposure must be considered, which, in the case of aquatic environments in the National Forests, would be short; the compounds of concern are broken down and their concentration reduced through dilution, as well as binding of the compounds to stream sediments (USDA Forest Service 2004).

Sporax®

Worker exposures to Sporax are expected to be sufficiently low to avoid any adverse effects. Borax can cause eye irritation, which is likely to be the only overt effect as a consequence of mishandling Sporax. Public exposures as a result of potential accidents involving contaminated water indicate a low risk of any adverse effects. There may be some risk of effects to humans through direct ingestion, which could occur as a result of a young child seeing some Sporax on a treated stump and tasting enough of it (Dost and others 1996).

Similar to the human risk assessment, the ecological risk is focused on direct consumption of Sporax rather than through ingestion of contaminated water. This risk is also related to body size, with smaller mammals and birds at higher risk of effects than larger animals. Since borax is also used in the control of fungi, microorganisms, and insects, adverse effects are possible to these organisms in the wild; however, based on the method and location of application, exposures are not anticipated to result in adverse effects. Boron is an essential nutrient in plants, and it is present in soil, so adverse effects to plants are not anticipated from any application, but an accidental spill could effect nearby plants. There is little risk to aquatic invertebrates, fish, or aquatic plants (Dost and others 1996).

Appendix P. Livestock Grazing Suitability Analysis

The determination of rangeland suitability is an interdisciplinary two-step process.

Step 1: The first step is the determination of those lands that are capable or have the potential of being grazed. Rangeland capability represents the biophysical determination of those areas of land that can sustain domestic livestock grazing. Capability depends on current and potential resource and site conditions. A unit of National Forest System land is generally capable where:

1. Slopes less than 60 percent for Alternatives 1 through 5, and less than 20 percent for Alternative 6;
2. Ability to produce greater than 200-700 lbs/acre of residual dry matter based on site potential;
3. Accessible to livestock; and
4. Areas where livestock can be controlled or sustained within a designated area and management system.

On the four southern California national forests, capable rangeland requires approximately 1 to 11 acres, depending on vegetation type and physical factors (such as slope and aspect), to produce 1 Animal Unit Month (AUM) of forage. One cow on range for a month represents 1 AUM, and a cow/calf represents approximately 1.32 AUM. Based on historical and current use, 1 AUM requires approximately four acres of capable land.

Livestock grazing is predominantly distributed among seven capable vegetation categories for the four southern California national forests. Using existing vegetation layers from the plan revision GIS database, the Calveg vegetation types for all designated grazing areas were grouped into seven broad vegetation categories based on estimated potential capability and forage production similarities: herbaceous; hardwoods; conifer; chaparral/coastal sage scrub; riparian; desert; and non-capable. The primary palatable forage for livestock is annual herbaceous vegetation, with a smaller amount of browse on woody species.

Step 2: The second step identifies which of those capable lands are suitable for grazing under various management scenarios or land use zones. Assessment of suitability is conducted by an interdisciplinary team to address whether livestock grazing is compatible with other land uses; ecological, social, and economic considerations; and the ability to meet or move towards forest plan desired conditions. Determine the suitability of capable lands by considering the following guidelines for Alternatives 1 through 6:

1. Capable lands are not suitable in:
 - a) Critical Biological land use zones;
 - b) Specially designated National Forest System lands excluded from grazing by legislation. In wilderness areas, where livestock grazing was not established at the time of designation and where there is no recent history of grazing use prior to wilderness designation (Section 4(d)4(2) of the 1964 Wilderness Act);
 - c) Critical Habitat for coastal California gnatcatcher;
 - d) Peninsular bighorn sheep range; and
 - e) San Dimas Experimental Forest.
2. Capable lands may not be suitable in some areas depending on the overall evaluation of potential significant adverse effects and where efforts to mitigate adverse effects have been determined to be ineffective over the long term based on site-specific information or analysis. Areas to be evaluated include but are not limited to:
 - a) Bighorn sheep habitat (see Standard 26);

- b) Areas with significant social conflicts, developed recreation sites, special-use sites, heritage resource sites, Native American sites and traditional practices, mining, and other authorized uses;
- c) Areas where livestock grazing is in conflict with the objectives for administrative sites and research facilities or study sites, except in areas where livestock grazing is for research purposes;
- d) Areas where livestock grazing is impractical due to economic considerations, such as high agency administrative costs and where cooperative and collaborative contributions are absent. Livestock grazing may be impractical to support a small number of head or the inability to control or sustain livestock without a significant Forest Service investment to meet resource objectives and desired conditions;
- e) Areas of important wildlife habitat where suitable habitat cannot be sustained or move towards desired conditions (e.g., threatened, endangered, proposed, candidate and sensitive species);
- f) Areas where ground cover (i.e., living vegetation, plant litter, and surface rock fragments greater than 3/4 inch) is insufficient to protect soil from erosion. The minimum percentage of effective soil cover is 60 percent unless local data are available for use in setting more specific ground cover requirements;
- g) Areas where a noxious weed risk analysis has determined that livestock use is a key limiting factor in meeting or moving towards vegetation management objectives. Exceptions could be where livestock are used as a tool for noxious and invasive weed control;
- h) Areas with unique habitats where suitable habitat cannot be maintained over the long term or move towards desired conditions (e.g., bogs, fens, vernal pools, and rare plant communities);
- i) Areas where livestock grazing would be the key limiting factor in reaching or moving towards forest plan desired conditions;
- j) Areas where existing condition or restoration needs require an extended (more than five years) rest from livestock grazing (e.g., watershed improvement projects). Exceptions could be where livestock grazing is needed to achieve desired vegetation management objectives (e.g., fuelbreak or WUI Defense or Threat zones maintenance); and
- k) Areas where livestock grazing would be a key and significant contribution to landslide and/or soil erosion, stream incisement, or other unacceptable alteration of surface and subsurface conditions.

Appendix Q. Science Consistency Review

Science Consistency Review Team Report

Introduction

A Science Consistency Review is defined as the process used to determine whether an analysis or decision document is consistent with the best available science. That review is accomplished by judging whether scientific information of appropriate content, rigor, and applicability has been considered, evaluated, and synthesized in the documents that underlie and that implement land management decisions (Guldin and others 2003a).

At the request of the Regional Forester, on 26-27 October 2004 a science consistency review (SCR) team was convened by the Pacific Southwest Research Station in San Diego, CA to evaluate the draft revised forest plans for the southern California national forests, the Draft Environmental Impact Statement (DEIS) for those plans, and supplemental information.

SCR team members were given copies of the revised forest plans, the DEIS, and supplemental information (species accounts and other reports) prior to or at the October meeting. In addition, the forest plan revision interdisciplinary team (ID team) prepared for the review team a draft list of “key elements” in the revised forest plans and DEIS that were proposed as a focus for the review. At the meeting, discussions were held among the SCR team, technical experts from the ID team, and the review administrators. Those discussions led to refinement of the list of key elements. These elements represent a distillation of the crucial scientific topics addressed in the DEIS, as viewed by the SCR team, and they warranted individual scrutiny by one or another of the team members. The context for that scrutiny was the standardized set of science consistency evaluation criteria (Guldin and others 2003a, 2003b):

- Has applicable and available scientific information been considered?
- Is the scientific information interpreted reasonably and accurately?
- Are the uncertainties associated with the scientific information acknowledged and documented?
- Have the relevant management consequences, including risks and uncertainties, been identified and documented?

The science consistency review team consisted of:

SCIENCE CONSISTENCY REVIEW ADMINISTRATORS

Peter A. Stine, Research Program Manager and Research Biogeographer, Sierra Nevada Research Center, Pacific Southwest Research Station, Davis CA

Richard Kimberlin, Program Manager, Riverside Forest Fire Laboratory, USDA Forest Service, Pacific Southwest Research Station, Riverside CA (now retired)

SCIENCE CONSISTENCY REVIEW TEAM

James Absher, USDA Forest Service, Pacific Southwest Research Station, Riverside CA

Aaron O. Allen, U.S. Army Corps of Engineers, Los Angeles District, Ventura CA

Gerald Braden, San Bernardino County Museum, San Bernardino CA

Ronald W. Hodgson, Bureau of Land Management, Lakewood CO

Patrick A. Kelly, Department of Biology and Endangered Species Recovery Program, California State University, Stanislaus, Fresno CA

Kathleen R. Matthews, USDA Forest Service, Pacific Southwest Research Station, Albany CA

Elizabeth L. Painter, Jepson Herbarium, Santa Barbara CA

Norman Scott, Consultant, Creston CA

Jack K. Shu, Consultant, La Mesa CA

Philip Riggan, USDA Forest Service, Pacific Southwest Research Station, Riverside CA

David Weise, USDA Forest Service, Pacific Southwest Research Station, Riverside CA

Robin Wills, National Park Service, Oakland CA

William O. Wirtz II, Department of Biology, Emeritus, Pomona College, Claremont CA

The final Science Consistency Review report was submitted 21 December 2004.

Included in this appendix to the FEIS are 1) a list of the key elements in table form, with information on whether or not the SCR team felt that the four review criteria were met for each; 2) a report, organized by key elements, summarizing the SCR team's findings and concerns about each key element; and 3) the Forest Service response to the summary report. Full text of each SCR team member's review comments is included in the project record but is not part of this appendix to the FEIS. The compiled team members comments are available to read on the national forest websites at [www. fs. fed. us/r5/angel es/projects/l mp](http://www.fs.fed.us/r5/angel es/projects/l mp), [www. fs. fed. us/r5/cl evel and/projects/l mp](http://www.fs.fed.us/r5/cl evel and/projects/l mp), [www. fs. fed. us/r5/l ospadres/projects/l mp](http://www.fs.fed.us/r5/l ospadres/projects/l mp), or [www. fs. fed. us/r5/sanbernardi no/projects/l mp](http://www.fs.fed.us/r5/sanbernardi no/projects/l mp).

Key Element Matrix

The key elements identified by the ID team and refined by the SCR team were each evaluated according to the following criteria:

- Has applicable and available scientific information been considered?
- Is the scientific information interpreted reasonably and accurately?
- Are the uncertainties associated with the scientific information acknowledged and documented?
- Have the relevant management consequences, including risks and uncertainties, been identified and documented?

Each scientist on the SCR team indicated whether he/she felt that each key element within his/her area of expertise met each of the evaluation criteria fully, partially, or not at all. The individual responses were added together and a matrix of key elements by evaluation criteria was produced. The key element matrix is shown in table 560: Matrix of key elements and criteria to be used in evaluating science consistency in the southern California Forest Plan revision.

This matrix informed the forest plan revision ID team about deficiencies in information or analysis within the reviewed documents. Each scientist also wrote comments explaining their findings about the key elements. The review administrators compiled and summarized those comments by the key elements they addressed in the following report.

Table 560. Matrix of key elements and criteria to be used in evaluating science consistency in the southern California Forest Plan revision.

Elements	Criteria for Decision			
	Is the relevant scientific information considered? A	Is the scientific information reasonably interpreted and accurately presented? B	Are the uncertainties associated with the relevant scientific information acknowledged and documented? C	Are the relevant management consequences identified and documented, including associated risks and uncertainties? D
1. Recreational Uses/Urbanizing Landscapes				
1a. Human use trends and demand	Partial	Partial	No (+ 0/1)	No
1b. Road density implications in different habitats	Yes	Yes	Yes (- 0/1)	Yes (- 0/1)
1c. Context of the National Forests in regional open space network	Partial	Yes	Yes	Yes
1d. Projected trends in visitor satisfaction	Partial(- 1/0)	Partial	No (+ 0/1)	No
1e. Current demand of an urbanizing community	No (+ 0/1)	No (+ 0/1)	No (+ 0/1)	No
1f. Appropriate threshold in recreational capacity of the SoCal National Forests	Partial	No (+0/1)	No (+ 0/1)	No (+ 0/1)
1g. Assumptions about visitor behavior in response to conservation education	No	No	No	No
1h. Education, outreach, communication strategy	No (+ 0/1)	Partial	No	No (+ 0/1)
2. Fire and Fuels				
2a. Fire suppression policy in chaparral (fire use)	Partial ?	No (+ 0/1)	No	No (+ 0/1)
2b. Role of roads and fuelbreaks in fire suppression/fire starts	Partial	Yes	No	No
2c. Inter-relationship of Vegetation management strategies and frequency/ severity fire regimes	Partial	No	No	No
2d. Effects of treatments in the WUI on surrounding resources	No	No	No	No
2e. Effect of altered fire regimes on biological diversity	Partial ?	Partial ?	Partial ?	Partial ?
2f. Effect of fire and fuels treatments on spread of invasive species	Partial ?	Partial ?	Partial ?	No

Elements	Criteria for Decision			
	Is the relevant scientific information considered? A	Is the scientific information reasonably interpreted and accurately presented? B	Are the uncertainties associated with the relevant scientific information acknowledged and documented? C	Are the relevant management consequences identified and documented, including associated risks and uncertainties? D
2g. Effect of fire and fuels treatments on fire spread	No	No	No	No
2h. Effects of herbicide use to control vegetation	No	No	No	No
3. Protection of Natural Resources with Increasing Human Use				
3a. Process to identify species-at-risk	Partial	Partial (- 1/1)	Partial	Partial (- 1/2)
3b. Identification and description of natural communities	Partial	Yes (- 2/0)	Yes (- 1/1)	Yes (- 1/1)
3c. Species-at-risk viability evaluation	No (+ 1/1)	No (+ 2/0)	No (+ 1/2)	No
3d. Effects of modified human use on riparian and aquatic habitats/species; how well were the effects analyzed?	Partial ?	Partial ?	Partial ?	No (+ 2/0)
3e. Effects of modified human use on watershed health (soils, water)	Yes	Yes	Yes	Yes
3f. Effects of unmanaged recreation (e.g., OHV, target shooting) on habitats and species-at-risk	Yes (- 1/1)	Partial ?	Yes (- 1/1)	No (+ 2/1)
3g. Effects of land uses on natural communities	Yes (- 1/0)	Yes (- 1/0)	Yes (- 1/0)	Yes (- 1/0)
3h. <Moved to Section 1>				
3i. Effects of livestock grazing on habitats and species-at-risk	Yes (- 2/1)	Yes (- 1/1)	Yes (- 2/1)	Yes (- 2/1)
3j. <Moved to Section 1>				

Partial ? = even split yes/no

Partial = one or more partials without a yes or no

Yes (- #/#) = 'yes' majority or plurality with no/partial #'s

No (+ #/#) = 'no' majority or plurality with yes/partial #'s

Science Consistency Review Team Summary Report

This report is organized by the "key elements" examined in the review of the revised forest plans, Draft Environmental Impact Statement, and supporting documents (primarily species reports). Each key element was evaluated according to the criteria listed below.

Criteria for Decision

- Is the relevant scientific information considered?
- Is the scientific information reasonably interpreted and accurately presented?
- Are the uncertainties associated with the relevant scientific information acknowledged and documented?
- Are the relevant management consequences identified and documented, including associated risks and uncertainties?

General Comments

1. Additional scientific citations are recommended in a variety of places in the DEIS. (See Scott, Wirtz, Painter, Absher and others for more information)
2. There are problems with repetition. For example, the same phrases and sentences appear repeatedly, especially as one reads each of the Forest reports in part 2. This creates a tedium that does not hold the reader. There also seems to be some uneven editing, for example with San Bernardino being repeatedly spelled with only one 'r'. And, though few may notice, we have misgivings about misspelled scientific names.
3. In any section of the document where a qualitative method was used to identify and analyze environmental parameters (species viability for example), the methodology, including any assumptions, implementation process and/or definitions, should be clearly described in the Draft EIS. These analytical approaches may be necessary, including all the uncertainty that comes with assumption laden methods, but this should be transparent and clearly described. In a planning effort on this scale, we have to expect a large amount of subjectivity. However, the more subjective our analysis is, the more cautious we must be in our interpretation, inferences, and planning. Given that all four forests are highly stressed and becoming increasingly stressed, and the fact that there is insufficient information to complete more quantitative viability assessments for key species in the planning area, it will be difficult to defend qualitative methods. Every effort should be made to accompany methods discussions with clear expressions of why the method was chosen and what the assumptions are.
4. Figures and tables, especially in the supporting documents (e.g., Southern California National Forests Vision), need to be labeled more consistently and with more informative legends, including definitions where appropriate (or readers need to be directed to where those definitions can be found). Figures and tables are generally supposed to be able to stand on their own and be generally understandable without reference to the text of a document.
5. Recreation information used is informative and useful, but incomplete. That is, there are other sources of research information that are readily available and apropos. The recreation use data supporting planning for the San Bernardino National Forest is missing. It appears that the plan does not devote as much effort to the recreation aspects as it did other resource use issues. The information as presented is not fully reflective of the issues that confront a recreation-dominant, urban interface forests in Southern California.

1. Recreational Uses/Urbanizing Landscapes

1a. Human use trends and demand

Referring 1a.D and 1f.A-D: The management consequences of Recreation/human use trends, thresholds, and allowing increased recreational use under alternative 4 are not adequately addressed. The effects on biological diversity of increased recreation are not fully described commensurate with varying levels of management control. (refer to Matthews report for more information)

1b. Road density implications in different habitats

No responses or entries at this time

1c. Context of the National Forests in regional open space network

Strategies could include more interaction with local and state agencies to promote networking, coordination and collaboration of use of open space, recreation and educational resources. For example, data on the use and availability of picnicking facilities in each forest's region should be used in planning development and setting priorities. (refer to Shu for more information)

1d. Projected trends in visitor satisfaction

The Draft EIS covers trends and projections for recreation with information based largely on current users. More information is needed on latent demand from groups that under utilize the forest. For example, older campers or the African American community may prefer more developed facilities. To better serve these user groups the forest may need to develop facilities with more amenities rather than only primitive or semi-primitive facilities. (refer to Shu's for more information)

1e. Current demand of an urbanizing community

1. There are some presumptions that were made in the Forest Vision section, Management Challenges, Urbanization, Pages Vision 4-5, that sets the planning process into a potentially polarizing perspective. With over 20 million people living next to the four forests human impacts will be significant. However, to state that "urbanization" or diverse communities pose a "challenge" gives these qualities a negative image. Having a diverse urban community adjacent to a forest can have advantages. Future population growth in the region gives the forests the opportunity to serve more people as a counter to the perspective that potential human impacts on natural resources may increase. Both perspectives need to be presented in a balanced way. (refer to Shu's report for more information)

2. In recent years, the matter of certain groups not having access to or under-utilizing outdoor recreation facilities or natural resources has become an environmental justice issue. There have been many barriers to outdoor recreation identified for people of color. For example, neither offering a wide range of high quality recreation or an increase in interpretation and conservation education efforts will specifically addresses the reasons why certain groups are not receiving the benefits the forests offer. (refer to Shu and Absher for more information)

3. There were times when some measure of uncertainty was presented, such as the use of "error rate" in some tables. However, these were not very well explained, nor used to show the real impact on certainty of the knowledge presented. None of these data will tell us much about the demand—the operating assumption seems to be that past consumption (use) is the effective demand tied only to population growth in a linear fashion. Location, population dynamics, urban growth areas all argue for a non-uniform demand shift. These principles seem to be recognized elsewhere but not clearly in the ranks of alternatives by recreation use. What, if anything, is expected to shift: either increase or decrease significantly. And where or when? These uncertainties are integral to the choices of alternatives and should be more obvious. The data and/or analysis is weak and doesn't fully capture the needed discussion for alternatives in a plan with an emphasis on recreation, tourism, OHV, etc., especially given their urban setting and shifting socio-demographics. (refer to Absher for more information)

1f. Appropriate threshold in recreational capacity of the SoCal National Forests

1. In recent years, sensitive habitats have been developed with extensive visitor facilities such as boardwalks, etc.. These facilities have made the areas that need protection much more accessible and accommodating to more visitors, while protecting the habitats with low fencing and other barriers. The plan needs to be clearer in its coverage of development that improves habitat and recreational visitor access or use at the same time. (refer to Shu for more information)
2. One odd application of the research was to assign thousands of acres of wilderness, where no mechanization is allowed, to dispersed vehicle camping. (see the Jim Absher report for a possible caveat)

1g. Assumptions about visitor behavior in response to conservation education

1. The uncertainties associated with the relevant scientific information related to visitor response to conservation education are not adequately acknowledged and documented. There is still considerable uncertainty about the relationship between attitude and behavior, for example. It is apparent that communication can be effective but other variables are important in the chain of effects between information, education, and other messages and resulting behaviors of visitors. (See Hodgson for more information).
2. The relevant management consequences of visitor response to conservation education efforts are not adequately identified and documented, including associated risks and uncertainties. There is no doubt that effective public communication campaigns can be designed that will contribute significantly to reductions in undesirable impacts of outdoor recreation on natural resources and minimize inter-use conflict and unlawful behavior. However, it will require close attention to communication principles soundly grounded in communication, education (including adult learning) psychological, and sociological research. (See Hodgson for more information).
3. The strategies (goals) for conservation education state “Visitors (should) have a greater understanding about the significance and importance of forest ecosystems, heritage resources, and the interrelationship between people and the natural environment.” This may be an agency goal or one that is tied to GPRA; however, it does not address educational needs identified by the educational community. Other information such as statewide voting records indicates that diverse, non-traditional user communities might support parks and wildlife to a higher degree than currently accounted for. This would suggest that as changing demographics alters the mix of users of the forests the protection of sensitive resources may become easier rather than more difficult. As these factors play out, it could result in different future scenarios than those analyzed in this document. These uncertainties in future visitor behavior should be acknowledged. (See Shu for more information).
4. In a greater context, the desires and responses of future visitors could result in an environmental justice issue. Schools Districts that represent poor communities, which do not have funds to take many field trips, need more opportunities to enhance their teaching of “State Standards”. A visit to the forests can help these students catch-up to students from more affluent communities that have had the opportunity to go to camps or vacation in forests. “Outreach,” in the context of the draft EIS Strategies, should mean learning the needs of communities and equitably providing the benefits the forests can offer that addresses those needs. Once again the EIS should acknowledge how different visitor communities may shape forest recreational opportunities and needs in the future. (See Shu for more information).

1h. Education, outreach, communication strategy

1. There is a substantial body of research on the effects of environmental education and related communication on human behavior. The research literature is even more extensive in allied areas such as health communication. Inclusion of this body of information will bolster the EIS. (See Hodgson for more information)

2. The literature is equally clear that public communication campaigns can be successful in changing and reinforcing behaviors if they go beyond information and knowledge communication. Again, a more thorough use of the literature on this topic will help the arguments made in the EIS. (See Hodgson for more information)

2. Fire and Fuels – General comments related to the full integration of fire and fuels in the LMP and DEIS (see the full Gerald Braden and David Weise reports, including PDF file for more information)

1. There is no single section of Chapter 3 specifically devoted to Fire and Fuels management elements in the DEIS. A specific section devoted to the discussion of fires and fuels, equivalent to sections on Biodiversity, Soils, Watershed and the like, would greatly facilitate a review of the supporting science relating to the avian community, biodiversity, and at-risk species. (refer to Braden for more information)

2. There is very little evidence presented of the level of analysis performed or any of the uncertainties associated with the results. It is not possible to determine what analysis was performed. (refer to Weise and Riggan for more information)

3. Differences between alternatives 1-5 and 6 are alluded to; however, no quantitative description of the differences is provided. (refer to Weise and Riggan for more information)

4. There is a great deal of information on fire effects that does not appear to be referenced. (refer to Weise for more information)

5. There is much reliance in the document on unpublished information that is on file in various FS offices. This information has not been critically reviewed and can not be considered to be scientific literature. (refer to Weise for more information)

Information on the actual accomplishment versus the planned accomplishments and effectiveness of the previous LMP approach to fire management should be presented (refer to Weise for more information)

2a. Fire suppression policy in chaparral (fire use)

1. The Fire Regime Condition Classes (FRCC) may have limited application in this landscape. Chaparral vegetation may not fit nicely into one of the three categories, particularly if fire frequencies are elevated. The landscape setting seems to be much more important than the ecological condition in terms of implementing the proposed strategy. Some proposed method for describing hazard seems appropriate here. (refer to the Wills for more information)

2. If current fire management policy is substantially different from earlier policies, such differences should be compared and contrasted (refer to Weise for more information)

2b. Role of roads and fuel-breaks in fire suppression/fire starts

The relationship of roads and fuel breaks to fire suppression and fire starts is not entirely clear nor completely supported with available science. There is some doubt that the assumptions that fire size will increase under alternative 6 are justified. There is little science to support the idea that road access for fire fighting resources would significantly change the number of acres burned in chaparral and emergent tree ecosystems. Roads and access for engines or hand crews may have little effect on fire spread during 90th percentile weather conditions. It is difficult to assess the real impact of this and other alternatives without additional details on implementation. (refer to Wills and Wirtz for more information)

2c. Inter-relationship of vegetation management strategies and frequency/ severity fire regimes

1. The plan does not allow for integration of fire into land and natural resource managing activity such as wildland fire use in wilderness even though the plan notes that it will be integrated. A simple and concise risk assessment involving fire spread and proximity to UWI would be helpful in documenting the rationale for not allowing fire use. (refer to Wirtz and Wills for more information)

2. There are a series of key ‘effected environment’ descriptions that leave a number of unanswered questions or potentially unsupported validity due to incomplete descriptions. These include: 1) The implementation of Alternative 6 may be misinterpreted in this document. The increased acres and shortened fire return intervals presented in the appendix may represent a poor application this alternative; 2) The percentages of planned treatment, for individual vegetation types, do not seem to be tied to any ecological or fuels management measure. How were these numbers of acres arrived at? Are they some how attached to goals? It would help readers to understand the rationale behind the treatments within alternatives, and; 3) Across the four forests there seems to be little change in fire occurrence through the last three decades. How does this support the selected alternatives? (refer to Wills for more information)
3. Air pollution in the 1970s was claimed to have killed a million trees in the San Gabriel and San Bernardino mountains. Do we really have good evidence that this was less important to stand structure than was the effect of fire suppression? Has the current bark beetle infestation really been less important? (refer to Riggan for more information)

2d. Effects of treatments in the WUI on surrounding resources

It is difficult to evaluate the Los Padres, in the same document with the three other national forests. It just seems so strikingly different in nature from the urbanized, more southerly located forests. Even the application of science differs as the questions are so fundamentally different. It is not clear that Jon Keeley’s work, which seems heavily cited, is appropriate in some portions of the LP. (refer to Wills for more information)

2e. Effect of altered fire regimes on biological diversity

1. The plan does not allow for integration of fire into land and natural resource managing activity such as wildland fire use in wilderness even though the plan notes that it will be integrated. (refer to Wirtz for more information)
2. The science consistency review elements are assessed in the DEIS on the basis of the expected outcomes on the plant community. Possible and/or expected wildland fire effects on the avian community are not explicitly examined. Thus, it is difficult to determine if the relevant science has been consulted or reasonably interpreted. The habitat based approach used in the DEIS, though understandable, poses a significant problem when it comes to assessing the science consistency of the Fire and Fuels portions of plan relative to the avian community. (refer to Braden for more information)
3. The strategy for dealing with tree mortality and altered fire regimes, in mixed conifer forest is unclear. There also seems to be little reference to literature documenting the impact of air quality on tree retention. It seems difficult to evaluate the use of relevant science without a clear idea of what is being proposed and at what scale (refer to Wills for more information)
4. Changes in the hydrologic regime of drainages where arroyo toads (and other aquatic species of concern) occur are recognized as primary threats to the species. Not mentioned here are the spectacular changes wrought by post-fire debris flows, which are potentially reduced by prescribed burning. (refer to Riggan for more information)
5. In the DEIS the reduced impact of prescribed fires, relative to that of wildfires is recognized; what is needed is an objective analysis of the effects of prescribed burning on the subsequent wildfire regime. Also noted, a likely reduction in smoke emissions from wildfires is expected from intervention by prescribed burning. An objective analysis is needed of by how much emissions will likely be reduced over the long term is needed. If the basis for the assessment is lacking it should be stated. Refer to Riggan for more information)

2f. Effect of fire and fuels treatments on spread of invasive species

There is a issue regarding the identification and documentation of management consequences, including associated and uncertainties for invasive species. There is very little clear discussion of responses needed or the prioritization of invasions. (refer to Wills for more information)

2g. Effect of fire and fuels treatments on fire spread

1. The scale at which this planning has occurred makes review for science consistency difficult. Current literature is relatively weak regarding fire spread and alterations of fuels. We do not know the true effect of landscape scale burning on fire safety and fire fighting effectiveness, particularly in Southern California. It is important to note that the plan's strategy is not supported as much by science as by other constraints and unpublished or anecdotal information. (refer to Wills and Weise for more information)
2. There is little detail provided on effects of the proposed treatments. The effects of season of burn, intensity of burn, etc. are not described (refer to Weise for more information)
3. The DEIS claims that "Projected prescribed burning would not change the distribution of extreme wind driven fires, which govern the distribution of large patch-size fires." The Cedar Fire had burned 80,000 acres and reached the City of San Diego after 18 hours. It ultimately reached 273,000 acres. The difference in these sizes was obtained by burning largely laterally to or into the ambient wind. Prior prescribed burning might well have had an impact on that spread, especially if fire suppression resources had not been over-extended. (refer to Riggan for more information)

2h. Effects of herbicide use to control vegetation

There was little substantive science related response from SCR team members on this subject. (refer to Weise and Wirtz for more information)

3. Protection of Natural Resources with Increasing Human Use

The review team provided considerable discussion on this topic, particularly certain aspects of it that will be apparent in the items below. Clearly it is a major task to assess the natural resources of concern within the planning area and project the potential effects of the alternative actions discussed in the EIS. The sheer geographic scope of the planning are coupled with the significant biological diversity of the region makes this task formidable. The Review Team appreciates the difficulty of amassing the available information and reporting it thoroughly and accurately. Notwithstanding the recognition of these challenges, we offer some observations that highlight shortcomings in the DEIS.

3a. Process to identify species-at-risk

1. The process used to identify species-at-risk (assigned ranks 1-6 and the rationale for the ranks) is necessarily subjective and the team understands that. Nevertheless, can we cite a defensible empirical basis to assign a species to one threat level over another? The assigned threat category may or may not reflect reality. For some species we have fairly good information on distribution and abundance (e.g., mountain lions) but for many others we do not. For a number of sensitive mammals, threat level 2 (potential habitat only in the plan area) is assigned; do we really know that those species are not present in the plan area?
2. This approach may well be the only way to address this information, given a general lack of quantitative distribution data. However, the process might be improved upon if all available data were utilized. Most notably, specimen based museum records appear to be under utilized. As with many resource management planning efforts, this one is hampered by a scarcity of detailed information on the distribution and abundance of key species. (See Kelly and Braden for more information)
3. Some reviewers had problems with Key Indicator table on page 3-26 (See Wirtz for more information). Key indicators are first mentioned on 3-14, and defined as "factors most likely to indicate movement either toward or away from desired resource conditions". A key indicator in the table is

"dispersed rec. potential"; some reviewers are not certain what this means. Also, "fire regime" is a key indicator. Fire affects virtually all of these habitats, and different fire regimes may be expected to affect different habitats in different manners. Fire is probably the single major factor, but just saying that the key indicator is "fire regime" doesn't provide useful information. (see Wirtz for more information)

3b. Identification and description of species and natural communities

1. The accounts are called 'species' accounts, even though quite a few of these relate to infra-specific (subspecies or variety) taxa. More accurately, they should be called 'taxon accounts'.
2. There are some errors in the identified legal status of some taxa as well as some problems with the identified taxonomic status. In the 'final' individual taxon accounts (provided as hard copies and on CD), there is a significant error in the nomenclature: both genus and species begin with upper case letters (this is generally not found in the draft versions that are on the web page created for the SCR team). Genera (nouns in Latin) always begin with an upper case letter. Specific and infra-specific epithets (adjectives in Latin) always begin with a lower case letter. By using an upper case letter, USFS gives the appearance of having elevated species to genera. Some nomenclature needs revision (e.g. the list of herps). (See Scott and Painter for more information)
3. Some taxonomic accounts need to be bolstered with more substantive facts and/or revised to be more accurate. There is inadequate information presented in some accounts to determine how the different alternatives would fare in predicting habitat suitability. (See Scott and Matthews for more information)
4. It would help to organize the taxonomic accounts in systematic order. We realize that most of the audience for this document is non-scientific, however proper organization and presentation of the long list of taxonomic accounts will help a reader wade through the documents. The current arrangement of species in the various tables is extremely confusing. (See Wirtz and Kelly for more information)
5. A discussion of grasslands needs to be added to the Affected Environment section of the DEIS. This relatively dominant habitat type of this region deserves more discussion and consideration in terms of potential effects of the plan on the organisms that depend on this type. Further discussion about the possibility that many (perhaps most) of the alien-dominated 'grasslands' of southern California may not have been dominated by grasses before settlement is warranted as well. There are possibilities for restoring native bunch grass habitat to the planning area. (See Painter for more information)
6. A discussion of biological crusts needs to be added to the Affected Environment section of the DEIS. This is a rather rare and less well known biological community but one that is particularly vulnerable and should be addressed when considering potential effects of various land uses. (See Painter for more information)
7. There are some additional taxa that should be on Forest Service Region 5 or individual forest sensitive or watch lists. The lists provided are primarily for the Los Padres NF. (See Painter for more information)
8. There are 287 plant taxa with individual taxon accounts. There was rarely sufficient information in the accounts to be able to follow the possible logic that lead to the assignment of threat category. The results of these spot checks, plus the numerous problems that were found, make the team uncomfortable with the overall quality of the accounts. We realize the enormity of the task to assess such a large and diverse array of plant taxa. However, this document purports to cover all these taxa within a context of effects analysis. A few of the accounts look quite thorough. With other taxa there are significant problems that may effect the conservation and management of the taxa. Some individual taxon accounts are diffuse, redundant, uneven, and sometimes confusing. Headings do not match among accounts. Information that should be reported under specific headings (e.g., threats) often is spread throughout the reports. The same information is not infrequently unnecessarily repeated under multiple headings. Again we acknowledge the sheer enormity of the task but we believe that this feedback, while appearing negative, is necessary to

guide you towards development of a more complete final document. (See Kelly, Matthews and Painter for more information).

9. Sources of information and citation style should be standardized (See Painter for more information)

3c. Species-at-risk viability evaluation

1. Some SCR team members disagree with certain species vulnerability assessments. These assessments are a matter of professional judgment. Strengthening the justification of vulnerability calls with whatever information is reasonably available is recommended. Where appropriate, integrating comments from SCR team members would be helpful.

2. Where is the published scientific literature that supports using a qualitative assessment of habitat suitability and no direct prediction of species persistence as a surrogate for viability? Why couldn't the population data also be part of the outcome prediction for National Forest lands?

3. There is a critical statement on 3-70: "habitat of sufficient quality, distribution and abundance must be available for these species to be well-distributed across their existing range in the planning area." The critical assumptions supporting this statement are: 1 - we know where they are, 2 - we know what they require, 3 - we can repair habitat which is degraded/damaged, and 4 - we can teach the public the value of these organisms. This is a task of monstrous proportions, and it cannot be achieved with present Forest Service personnel levels or present funding levels. There are numerous statements in the DEIS like "if funding permits", or "given budget constraints" in this document. They should be made much stronger if the Forest Service has any hopes of achieving the goals presented here.

4. The viability assessment methodology used in the DEIS may be providing an overly optimistic view of the ecological future for the four national forests in the planning area. The DEIS is a strategic document designed to define a framework for the development of manuals, species accounts, plans, etc. However, the majority of the SCR team felt that the viability assessment methodology in the DEIS may be too subjective to determine whether or not native species in the planning area will be maintained.

5. The subjectivity of the viability outcome statements process is difficult to defend. For each of the 6 DEIS Alternatives, sensitive vertebrates are assigned to one of five viability categories (A-E; good-bad). These subjective assignments are "rational" (as per Appendices - 9) under the general themes of the different alternatives but this does not mean that they are realistic representations of viability outcomes. They are guesses. It needs to be emphasized that these viability categories are largely habitat-based; making assumptions about species and population viability based on coarse level habitat information and few if any data on population dynamics is at least optimistic.

6. Under the constraints of this handicap, some members of the team believe the analyses are generally well done, but resulting Threats and Viability analyses are likely to be accordingly inaccurate and imprecise for some (many?) species. Although these handicaps are recognized, there is no apparent resolve to rectify the problem. Specifically, there is no scheme or directive to improve the quantitative knowledge base for species-at-risk or for that matter, species in general. While acknowledging the strategic nature of the proposed forest management plan, the fundamental problem facing forest management and the development of forest management plans, lack of basic distribution and life history data, remains unresolved. The lack of presence/absence, distribution, and life history data for the majority of vertebrate terrestrial species (not to mention other taxonomic groups) is not new, but rather has been and will continue to be a persistent impediment to managing the Southern California National Forests. (See Matthews, Scott, Braden, Wirtz, and Kelly for more information)

7. Not covered in the viability outcomes are the broader, ecosystem-level effects to the natural communities of the aquatic species. Most of the aquatic species of fish and amphibians on the southern California forests are TES or headed in that direction. To maintain the biodiversity of aquatic species requires a reduction in the adverse effects in the aquatic and riparian areas and there is no indication of

how this would happen under the preferred alternative. There needs to be more discussion and acknowledgement that entire aquatic ecosystems are degraded and must be restored and protected if the aquatic species are to be maintained. (See Matthews and Scott for more information)

8. There is some suggestion of new recreation opportunities that may be developed where they are determined to be sustainable and compatible with other resources. The DEIS seems to imply that at least some alternatives can simultaneously assist in the protection and conservation of aquatic and riparian habitats. How will this happen? 60 plant taxa at risk and 29 animal taxa at risk are found in habitats affected by recreation. Both riparian and meadows are potentially affected by recreation. The discussion of potential effects to taxa at risk would be more meaningful if it presented some specific examples of what could be done to ameliorate potential adverse effects (e.g. for arroyo toad and their habitat near campgrounds next to streams; can the campgrounds be moved, grazing excluded from all occupied arroyo toad sites, etc.) under the different alternatives. The basic point of this comment is we find it difficult to understand how the DEIS reconciles and/or analyzes these potential conflicts. (See Matthews, Wirtz, and Scott for more discussion).

9. We were told by Forest Service staff at the Science Consistency Review meeting in October, 2004 to assume that all threats to the federally listed arroyo toad were already taken care of in recreational projects, and to assume that any new project would be heavily scrutinized. Yet, in the arroyo toad species account, it discusses the impacts of campgrounds and roads and mentions seasonal closures and/or restrictions have been implemented at some campgrounds, and that several road crossings in toad habitat are being evaluated. If all of the threats have been eliminated we recommend that the EIS explicitly explain this in the species accounts or elsewhere in the document. (See Matthews for more information)

10. There appears to be a mistake in the predicted outcomes for the mountain yellow-legged frog. In Table 371 in the DEIS, it shows E, D, D, D, E, D for Alternatives 1-6. Yet the table in the individual species account shows all Es for Alternatives 1-6. (See Matthews for more information)

11. The assumption that all suitable habitats will be occupied introduces a large degree in uncertainty in the viability evaluations. The qualitative approach to cope with the lack of quantitative life history and distribution data also introduces a large degree of uncertainty in the evaluation outcomes. The overall result is a large degree of uncertainty in the relevant management consequences, risks and uncertainties in the species-at-risk evaluations. While the vagaries of the viability evaluations are acknowledged to some degree in the DEIS, they need to be explicitly explored or elucidated, even if the best possible answer is to acknowledge that the viability evaluations are simple best guesses. In short, the problem identified by the species-at-risk viability evaluation, lack of quantitative data, is not rectified by the Identification of Conservation Needs nor the Species Management or Conservation Strategy elements. Depending on the alternative, deleterious affects to some (most?) at-risk-species will not be mitigated. Extending the survey, inventorying, and monitoring strategies to all at-risk species, when present, and not just those species identified in Table 375 can rectify the problem (See Braden for more information).

3d. Effects of modified human use on riparian and aquatic habitats/species; how well were the effects analyzed?

1. The DEIS does not appear to address this element very thoroughly with respect to effects on taxa at risk. Specifically, the DEIS does not adequately address how the viability of aquatic taxa will be maintained with increased recreational activities or whether any levels of recreational use are compatible with maintaining aquatic species biodiversity. There is too much uncertainty in the potential effects, due in part to the lack of specificity on the extent and intensity of recreational activities, to accurately assess how sensitive aquatic organisms might respond. (See Matthews for more information)

2. Other members of the team offer that the Draft EIS, albeit general in its detail, by and large provides adequate scientific information concerning the physical and biological properties of aquatic and riparian ecosystems. However, the scientific information for project specific environmental documents will

require additional discussion of the specific changes that occur within aquatic and riparian communities with altered land use and project specific functional analysis for the affected areas. We acknowledge that this EIS is presented at the programmatic level but we caution that these crucial analyses will need to occur. (See Allen for more information).

3e. Effects of modified human use on watershed health (soils, water)

1. The Draft EIS utilizes adequate scientific information concerning the physical and biological properties of aquatic and riparian ecosystems. The scientific information for project specific environmental documents would be enhanced with additional discussion of the relationship between sediment transport and changes in stream channel morphology in fluvial systems throughout southern California. The combination of high intensity rainfall events, poor soil development and steep slopes often generates high magnitude storm events that transform stream channel morphology and associated riparian habitat, which should be recognized when describing aquatic and riparian habitat areas and evaluating potential human impacts on stream channel morphology, aquatic and riparian habitat in southern California. The Corps, Regulatory Branch would recommend that the above information be incorporated into future environmental analysis for project specific documents (Allen).

2. The Draft EIS provides adequate scientific information concerning the physical and biological properties of aquatic and riparian ecosystems and the effects of modified human use on these habitat types, including detailed discussion of the effects of road construction, cattle grazing, suction dredging and sand and gravel mining on riparian and aquatic habitat. However, the scientific information for project specific environmental documents would be enhanced with additional discussion of the specific characteristics of riparian and aquatic habitat in southern California, including the suite of hydrologic, biologic and biogeochemical functions typical of these habitat types. The environmental analysis for project specific documents would be augmented by utilizing one of several functional assessment methods for estimating the level of physical and biological functions present in wetland and riparian areas, potential degradation of physical and biological functions associated with proposed projects and for assessing the success of mitigation sites (Allen).

3f. Effects of unmanaged recreation (e.g., OHV, target shooting) on habitats and species-at-risk

1. The EIS should specifically recognize legal take authorities for certain species. For example, some taxa of herps are actively collected for a number of reasons including for the pet trade. This could have an impact on the status of the taxa and the restrictions to this activity are relevant to the overall status of the affected taxa. (See Scott for more information)

2. As written, the DEIS does not adequately address how the species viability will be maintained with increased recreational activities or whether any levels of recreational use are compatible with maintaining aquatic species biodiversity. Increased recreational activity is assumed in most of the alternatives however the specific affects of a variety of possible scenarios that will include more recreation, particularly in sensitive areas where both more recreation and species at risk are likely to occur are not adequately revealed or analyzed. This could have profound effects under some possible combinations of future recreational activity and sensitive species conditions. (See Matthews and Wirtz for more information)

3g. Effects of land uses on natural communities

Although the traditional view of succession was not directly addressed in the DEIS, it was alluded to. A more appropriate paradigm has been available for some time. State-and-transition (sensu Westoby et al. 1989), disequilibrium (sensu Davis 1984), dynamic equilibrium (sensu Webb 1986), non-equilibrium (sensu Westoby et al. 1989), unstable equilibrium (sensu Malin 1984), etc., models have replaced traditional Clements succession as a method of understanding vegetation change. The ecological literature has contained discussions of these models since at least the 1960s (see Laycock 1991, and Margalef 1969, Holling 1973, May 1977, Wissel 1984, etc., cited therein). The conceptual bases for the

models allow for a range of alternative states, discontinuous and irreversible transitions, dynamic communities, and stochastic events playing a large role in determining vegetation composition (Milton et al. 1994, Noy-Meir & Walker 1986, Westoby et al. 1989). (See Painter for more information)

3i. Effects of livestock grazing on habitats and species-at-risk

1. Again, as noted in the species viability section, the discussion of the implications of grazing on species-at-risk and their habitats is very weak. This potential effect should be more thoroughly analyzed. (See Matthews for more information)
2. One reviewer felt that there is a lack of credible scientific evidence that livestock use of the public range is beneficial. Also, the ecological impacts of livestock grazing have not been completely identified in the DEIS. Another reviewer felt that there may be beneficial effects of livestock grazing in keeping bodies of water from becoming overgrown with certain types of competing vegetation. The ecological costs and benefits of livestock need to be more fully discussed with literature references. (See Painter and Scott for more information)

Forest Service Response to SCR Team Report

General Comments

1. Additional scientific citations are recommended in a variety of places in the DEIS.

FS RESPONSE: Many additional scientific references have been cited in the Final Environmental Impact Statement (FEIS).

2. There are problems with repetition. For example, the same phrases and sentences appear repeatedly, especially as one reads each of the Forest reports in part 2. This creates a tedium that does not hold the reader. There also seems to be some uneven editing; for example with San Bernardino being repeatedly spelled with only one 'r'. And, though few may notice, we have misgivings about misspelled scientific names.

FS RESPONSE: An editor was hired to review the revised forest plans and FEIS to reduce the misspellings and other errors. We have attempted to correct all scientific names, though a few typos may fall through the cracks (the general editor may not catch all of those). While Parts 1 and 3 of the forest plans are the same for all four national forests, each has its own Part 2. These contain many similar elements – hence the repetition – but also have components unique to each national forest.

3. In any section of the document where a qualitative method was used to identify and analyze environmental parameters (species viability for example), the methodology, including any assumptions, implementation process and/or definitions, should be clearly described in the Draft EIS. These analytical approaches may be necessary, including all the uncertainty that comes with assumption laden methods, but this should be transparent and clearly described. In a planning effort on this scale, we have to expect a large amount of subjectivity. However, the more subjective our analysis is, the more cautious we must be in our interpretation, inferences, and planning. Given that all four forests are highly stressed and becoming increasingly stressed, and the fact that there is insufficient information to complete more quantitative viability assessments for key species in the planning area, it will be difficult to defend qualitative methods. Every effort should be made to accompany methods discussions with clear expressions of why the method was chosen and what the assumptions are.

FS RESPONSE: More and clearer explanation of methods used in qualitative analysis has been added to the FEIS. In particular, the description of the process used to evaluate species viability has been completely rewritten, with attention to pointing out simplifying assumptions, generalizations, and uncertainties that went into the evaluation. Other analyses have been more thoroughly described as well.

4. Figures and tables, especially in the supporting documents (e.g., Southern California National Forests Vision), need to be labeled more consistently and with more informative legends, including definitions where appropriate (or readers need to be directed to where those definitions can be found). Figures and tables are generally supposed to be able to stand on their own and be generally understandable without reference to the text of a document.

FS RESPONSE: Tables and figures have been identified with more clarity as to purpose and with additional information so that they stand alone in describing and comparing alternatives. Some tables that were misleading or did not effectively display the comparison have been eliminated. Footnotes have been added to a number of tables to help explain them.

5. Recreation information used is informative and useful, but incomplete. That is, there are other sources of research information that are readily available and apropos. The recreation use data supporting planning for the San Bernardino National Forest is missing. It appears that the forest plan does not devote as much effort to the recreation aspects as it did other resource use issues. The information as presented is

not fully reflective of the issues that confront a recreation-dominant, urban interface national forest in southern California.

FS RESPONSE: The use data for the San Bernardino National Forest have been updated so that all information is current and accurate. Recreation trends and impacts have been clarified to more directly reflect the issues, and Alternative 4a was developed to reflect the relationship between natural resource issues and the recreation setting in the southern California national forests.

1. Recreational Uses/Urbanizing Landscapes

1a. Human use trends and demand

Referring 1a.D and 1f.A-D: The management consequences of Recreation/human use trends, thresholds, and allowing increased recreational use under alternative 4 are not adequately addressed. The effects on biological diversity of increased recreation are not fully described commensurate with varying levels of management control.

FS RESPONSE: The use data and trends have been updated in the FEIS. The use of the strategies in Alternative 4 reflect the likelihood of utilizing stronger management controls. The effects of increased recreation demand and use on biological diversity have been clarified.

1b. Road density implications in different habitats

No comments or entries at this time from the SCR review team.

1c. Context of the National Forests in regional open space network

Strategies could include more interaction with local and state agencies to promote networking, coordination and collaboration of use of open space, recreation and educational resources. For example, data on the use and availability of picnicking facilities in each forest's region should be used in planning development and setting priorities.

FS RESPONSE: The availability of local City, County, State, and other federal recreational facilities was accounted for in projecting Forest Service facility needs. Both the forest plan and the FEIS have been strengthened to reflect stronger community partnership and coordination efforts and the emphasis for the national forests to focus on the recreation niche by sustaining the setting that we can uniquely provide for the public. Strategies in the forest plans have been clarified to reflect this more completely. There has also been an expanded analysis of the value of open space in the FEIS. The discussion in the FEIS on conservation education has been modified to explain how it would be intended to establish awareness, create interest and advocacy, and lead to stewardship roles. The details of coordination given in the example (last sentence of comment) are more site-specific than is appropriate to include in a strategic-level forest plan, but that kind of analysis would be done in forest plan implementation.

1d. Projected trends in visitor satisfaction

The Draft EIS covers trends and projections for recreation with information based largely on current users. More information is needed on latent demand from groups that under utilize the forest. For example, older campers or the African American community may prefer more developed facilities. To better serve these user groups the forest may need to develop facilities with more amenities rather than only primitive or semi-primitive facilities.

FS RESPONSE: The analysis has been clarified to show that many forms of recreation may be desirable even to people who never visit a national forest. This analysis also shows that education efforts may need to extend beyond the boundaries of the national forests and into local communities to become effective. We emphasize the concept of adaptive maintenance of existing facilities to allow for changing use patterns in response to new needs, ethnic and otherwise. We also point out in the environmental justice discussion that we have made and will continue to make every

opportunity for interest groups to express their opinions about management priorities available. Outreach strategies include the opportunity for community participation and forest participation within local environs. See also response above – the recreation niche that the national forests can uniquely fill for the public is predominantly one of semi-primitive recreation opportunities associated with the setting that we can best provide for those activities, not extensive developed facilities, although we realize the need for a range of opportunities.

1e. Current demand of an urbanizing community

1. There are some presumptions that were made in the Forest Vision section, Management Challenges, Urbanization, Pages Vision 4-5, that sets the planning process into a potentially polarizing perspective. With over 20 million people living next to the four forests human impacts will be significant. However, to state that “urbanization” or diverse communities pose a “challenge” gives these qualities a negative image. Having a diverse urban community adjacent to a forest can have advantages. Future population growth in the region gives the forests the opportunity to serve more people as a counter to the perspective that potential human impacts on natural resources may increase. Both perspectives need to be presented in a balanced way.

FS RESPONSE: The “challenge” has been clarified in the recreation section discussion on conservation education to include the opportunity to reach more people, including those who may not even visit their national forests. The User Conflicts section of the Social and Economic Environment was changed to Diverse Values and Uses, and all comparisons between urban and rural values were deleted as being negative and unsupported. The discussion about resolving inherent conflicts between national forest uses through zoning, redesign of facilities, permitting processes, etc., was given a new perspective as an opportunity to serve the surrounding urbanized area and garner public support for national forest management.

2. In recent years, the matter of certain groups not having access to or under-utilizing outdoor recreation facilities or natural resources has become an environmental justice issue. There have been many barriers to outdoor recreation identified for people of color. For example, neither offering a wide range of high quality recreation or an increase in interpretation and conservation education efforts will specifically address the reasons why certain groups are not receiving the benefits the forests offer.

FS RESPONSE: These efforts have been clarified in the FEIS to broaden the scope of responding to barriers and better inclusion in national forest efforts. The environmental justice discussion is expanded to include this issue. Clearly, the demographics of the area do not match with the NVUM ethnic use figures. That is, non-white ethnic groups tend to be underrepresented as national forest user groups relative to their presence in the surrounding population. This is represented as a concern and cause for altering the configuration of facilities, for bi-lingual signage, and as an objective for outreach efforts. The plan has been clarified to explain that the range of strategies available includes an emphasis on outreach within communities and urban areas and includes overall management on the national forest as well as more traditional avenues of conservation education.

3. There were times when some measure of uncertainty was presented, such as the use of “error rate” in some tables. However, these were not very well explained, nor were they used to show the real impact on certainty of the knowledge presented. None of these data will tell us much about the demand—the operating assumption seems to be that past consumption (use) is the effective demand tied only to population growth in a linear fashion. Location, population dynamics, urban growth areas all argue for a non-uniform demand shift. These principles seem to be recognized elsewhere but not clearly in the ranks of alternatives by recreation use. What, if anything, is expected to shift: either increase or decrease significantly. And where or when? These uncertainties are integral to the choices of alternatives and should be more obvious. The data and/or analysis is weak and doesn’t fully capture the needed discussion

for alternatives in a plan with an emphasis on recreation, tourism, OHV, etc., especially given their urban setting and shifting socio-demographics.

FS RESPONSE: The uneven demand shift was illustrated in the discussion of trends for specific key places. The broader discussion of overall trends was used in the discussion of all four national forests. The explanation of the error rates is explained in the NVUM reports included in the Reading Room. The basic assumption that recreation demand will vary with surrounding population numbers is simplistic but not inappropriate. We did not assume it was a linear relationship. Our assumption was that demand would increase with population growth, but not in proportion. We might have built predictive models that numerically capture the rationale for how various recreation pursuits will evolve, but it is safe to say that in southern California virtually all recreation opportunities will be pushed to the limit. Mathematical models are not necessary to reach that conclusion.

1f. Appropriate threshold in recreational capacity of the southern California national forests

1. In recent years, sensitive habitats have been developed with extensive visitor facilities such as boardwalks, etc. These facilities have made the areas that need protection much more accessible and accommodating to more visitors, while protecting the habitats with low fencing and other barriers. The plan needs to be clearer in its coverage of development that improves habitat and recreational visitor access or use at the same time.

FS RESPONSE: Sustainability of the recreation setting is the main focus of Alternative 4a. This brings attention to the improvement of habitat and as the reason people choose to visit the national forests, to be part of that setting.

2. One odd application of the research was to assign thousands of acres of wilderness, where no mechanization is allowed, to dispersed vehicle camping.

FS RESPONSE: The criteria for the model for dispersed vehicle camping are explained in the FEIS. Public roads bound several wilderness areas, which accounts for the availability of wilderness for this type of camping. This does not indicate that vehicles would be allowed in wilderness areas. Based upon public comments the information from the dispersed vehicle camping analysis has been explained further in the FEIS and the tables have not been used.

1g. Assumptions about visitor behavior in response to conservation education

1. The uncertainties associated with the relevant scientific information related to visitor response to conservation education are not adequately acknowledged and documented. There is still considerable uncertainty about the relationship between attitude and behavior, for example. It is apparent that communication can be effective but other variables are important in the chain of effects between information, education, and other messages and resulting behaviors of visitors.

FS RESPONSE: In the Social and Economic Environment section we clarified the discussion on environmental education to suggest that it would familiarize visitors with national forest management issues and goals rather than imbue an appreciation for proper behavior in the national forest environment. We acknowledge that environmental education does not generally change behavior unless it is very strictly and properly applied. The strategies have been clarified and the discussion expanded to illustrate that the goals and objectives include the establishment of awareness, creating advocacy, and lead to partnership and stewardship.

2. The relevant management consequences of visitor response to conservation education efforts are not adequately identified and documented, including associated risks and uncertainties. There is no doubt that effective public communication campaigns can be designed that will contribute significantly to reductions in undesirable impacts of outdoor recreation on natural resources and minimize inter-use conflict and

unlawful behavior. However, it will require close attention to communication principles soundly grounded in communication, education (including adult learning) psychological, and sociological research.

FS RESPONSE: The forest plans identify the strategies that will be utilized to achieve the goals of outreach and environmental conservation. Although it is assured that those strategies are available, the national forests have the ability to adjust them and continue activities that produce the desired conditions and results. As a consequence, effective campaigns are available in each alternative to meet the theme of each alternative. As mentioned above, the analysis has been clarified to display and emphasize this more clearly.

3. The strategies (goals) for conservation education state “Visitors (should) have a greater understanding about the significance and importance of forest ecosystems, heritage resources, and the interrelationship between people and the natural environment.” This may be an agency goal or one that is tied to GPRA; however, it does not address educational needs identified by the educational community. Other information such as statewide voting records indicates that diverse, non-traditional user communities might support parks and wildlife to a higher degree than currently accounted for. This would suggest that as changing demographics alters the mix of users of the forests the protection of sensitive resources may become easier rather than more difficult. As these factors play out, it could result in different future scenarios than those analyzed in this document. These uncertainties in future visitor behavior should be acknowledged.

FS RESPONSE: The conservation education section has been expanded to clarify the establishment of awareness, creation of advocacy, and leadership towards stewardship objectives in the recreation section and the biodiversity sections. Additional clarification has been added to acknowledge the roles of local communities as contributions to national forest management.

4. In a greater context, the desires and responses of future visitors could result in an environmental justice issue. Schools Districts that represent poor communities, which do not have funds to take many field trips, need more opportunities to enhance their teaching of “State Standards.” A visit to the forests can help these students catch-up to students from more affluent communities that have had the opportunity to go to camps or vacation in forests. “Outreach,” in the context of the draft EIS Strategies, should mean learning the needs of communities and equitably providing the benefits the national forests can offer that addresses those needs. Once again the EIS should acknowledge how different visitor communities may shape forest recreational opportunities and needs in the future.

FS RESPONSE: See response above. As strategic documents, the revised forest plans do not describe specific objectives at specific locations, but rather they describe tools available for use to accomplish community and national forest goals and objectives. Analysis in the FEIS is limited to describing the effects of the available tools in a strategic, rather than specific, way. The more detailed remarks in the full SCR report suggested providing transportation for “needy” communities. The analysis has been clarified to reflect the role of the national forests in meeting the needs of communities as well as the needs of the national forests. Partnership with the urban communities identified throughout the FEIS identifies the role of the national forests to meeting mutual needs.

1h. Education, outreach, communication strategy

1. There is a substantial body of research on the effects of environmental education and related communication on human behavior. The research literature is even more extensive in allied areas such as health communication. Inclusion of this body of information will bolster the EIS.

FS RESPONSE: As strategic documents, the revised forest plans do not describe specific objectives at specific locations, but rather, they describe tools available for use to accomplish community and national forest goals and objectives. Although there is a substantial body of literature on issues that include health communication, that level of analysis is not required for a

strategic analysis. It will become more pertinent at the project scale as the strategies are implemented.

2. The literature is equally clear that public communication campaigns can be successful in changing and reinforcing behaviors if they go beyond information and knowledge communication. Again, a more thorough use of the literature on this topic will help the arguments made in the EIS.

FS RESPONSE: See response to 1c above.

2. Fire and Fuels – General comments related to the full integration of fire and fuels in the LMP and DEIS (see the full Gerald Braden and David Weise reports, including PDF file for more information)

1. There is no single section of Chapter 3 specifically devoted to Fire and Fuels management elements in the DEIS. A specific section devoted to the discussion of fires and fuels, equivalent to sections on Biodiversity, Soils, Watershed and the like, would greatly facilitate a review of the supporting science relating to the avian community, biodiversity, and at-risk species.

FS RESPONSE: The forest plan revision core team decided that Vegetation Condition and Forest Health and Fire Management and Community Protection would continue to be separate sections. The discussion of the effects of these two programs on biological diversity are now easier to find in the Environmental Consequences section of the FEIS, however.

2. There is very little evidence presented of the level of analysis performed or any of the uncertainties associated with the results. It is not possible to determine what analysis was performed.

FS RESPONSE: More information has been added to the FEIS to better explain analysis methods. Some of this information can be found in supporting documents rather than in the FEIS itself.

3. Differences between alternatives 1-5 and 6 are alluded to; however, no quantitative description of the differences is provided.

FS RESPONSE: The differences are much clearer in the FEIS. Because of national emphasis on fire management for community protection, however, there would be relatively little difference among alternatives for this program, even between Alternative 6 and the others. Alternative 6 has been reinterpreted based on feedback from the coalition of environmental groups that submitted its components.

4. There is a great deal of information on fire effects that does not appear to be referenced.

FS RESPONSE: References to scientific literature and data from Forest Service records have been added to the FEIS discussions of fire effects.

5. There is much reliance in the document on unpublished information that is on file in various FS offices. This information has not been critically reviewed and can not be considered to be scientific literature.

FS RESPONSE: As long as the unpublished information is acknowledged as such, we believe it is still useful to illustrate conditions found on the national forests of southern California. For some types of information, unpublished national forest records may be all that is available.

6. Information on the actual accomplishment versus the planned accomplishments and effectiveness of the previous LMP approach to fire management should be presented.

FS RESPONSE: This information is now clearly outlined in the Effects on Vegetation section.

2a. Fire suppression policy in chaparral (fire use)

1. The Fire Regime Condition Classes (FRCC) may have limited application in this landscape. Chaparral vegetation may not fit nicely into one of the three categories, particularly if fire frequencies are

elevated. The landscape setting seems to be much more important than the ecological condition in terms of implementing the proposed strategy. Some proposed method for describing hazard seems appropriate here.

FS RESPONSE: We agree. This conclusion is stated in Affected Environment section on Vegetation Condition and Forest Health in the discussion on chaparral and changing fire hazard ratings vs the need for changing condition class. Methods describing different hazard levels exist but have not been discussed in detail in the revised forest plans.

2. If current fire management policy is substantially different from earlier policies, such differences should be compared and contrasted

FS RESPONSE: The big difference in current vs past policy is the move towards direct community protection, which is discussed at length in the FEIS.

2b. Role of roads and fuel-breaks in fire suppression/fire starts

The relationship of roads and fuel breaks to fire suppression and fire starts is not entirely clear nor completely supported with available science. There is some doubt that the assumptions that fire size will increase under alternative 6 are justified. There is little science to support the idea that road access for fire fighting resources would significantly change the number of acres burned in chaparral and emergent tree ecosystems. Roads and access for engines or hand crews may have little effect on fire spread during 90th percentile weather conditions. It is difficult to assess the real impact of this and other alternatives without additional details on implementation.

FS RESPONSE: There are three scientific references noted: Green (1977), Salazar and Gonzalez-Caban (1987), and Gucinski and others (2001). Alternative 6 has been reanalyzed in the FEIS based on different assumptions about its implementation (at the request of the environmental groups who submitted the original concept for the alternative), and the consequences for fire size have changed. We recommend the Riverside Fire Lab study this issue in detail as firefighters can name plenty of incidents with 90th percentile weather conditions where the fuelbreaks became less valuable and the roads more essential (example: the Williams Fire of 2002, Angeles National Forest).

2c. Inter-relationship of vegetation management strategies and frequency/severity of fire regimes

1. The plan does not allow for integration of fire into land and natural resource managing activity such as wildland fire use in wilderness even though the plan notes that it will be integrated. A simple and concise risk assessment involving fire spread and proximity to UWI would be helpful in documenting the rationale for not allowing fire use.

FS RESPONSE: USFS Adaptive Management Services Enterprise Team developed a fire spread table documenting fast moving fires threatening communities to support the lack of planned fire use (table 533). This table has been added to the FEIS, Affected Environment section on Wildland Fire and Community Protection. Air Quality was the other major barrier mentioned regarding a lack of planned fire use. A new standard was developed to support prescribed fire in wilderness between the draft and final revised forest plans. Finally, the use of confine and contain suppression strategies are noted and may also contribute to integration of fire into land and natural resource mgmt activity. Fire use is now discussed in the Environmental Consequences under Effects on Vegetation, Montane Conifer Forests. Fire use is confined to areas deep in Los Padres National Forest labeled non-WUI and is only proposed in Alternative 6.

2. There are a series of key 'affected environment' descriptions that leave a number of unanswered questions or potentially unsupported validity due to incomplete descriptions. These include: 1) The implementation of Alternative 6 may be misinterpreted in this document. The increased acres and shortened fire return intervals presented in the appendix may represent a poor application this alternative; 2) The percentages of planned treatment, for individual vegetation types, do not seem to be tied to any

ecological or fuels management measure. How were these numbers of acres arrived at? Are they somehow attached to goals? It would help readers to understand the rationale behind the treatments within alternatives, and; 3) Across the four forests there seems to be little change in fire occurrence through the last three decades. How does this support the selected alternatives?

FS RESPONSE: The fire management and fire ecology aspects of Alternative 6 have been reinterpreted as a result of comments from the coalition of environmental groups who proposed the original concept for the alternative and lengthy internal discussions. Instead of decommissioning all Maintenance Level 1 and 2 roads, Alternative 6 would close them to public access but retain the road beds for fire fighter access. The fire suppression approach in this alternative has been changed as well. We have concluded that in most respects it is not radically different from the other alternatives. Acres of proposed fuel treatments were derived from the national forests' five year fuels plans. The fact that there has been little change in fire occurrence on the Cleveland, Los Padres and San Bernardino National Forests is a real tribute to our personnel in fire prevention as occurrence has sky-rocketed outside the national forests. We have also changed the vegetation treatment emphasis of all alternatives to focus on the WUI defense and threat zones, as called for in the National Fire Plan. The greater focus on the WUI zones and community protection and its effects on different vegetation types are discussed in the Environmental Consequences in the Effects on Vegetation section.

3. Air pollution in the 1970s was claimed to have killed a million trees in the San Gabriel and San Bernardino mountains. Do we really have good evidence that this was less important to stand structure than was the effect of fire suppression? Has the current bark beetle infestation really been less important?

FS RESPONSE: Obviously the two have acted in concert to affect the stand structure of montane conifer forests, and we do not have evidence that air pollution was less important to stand structure. Moreover, we also agree that bark beetle infestations following the severe drought have accelerated mortality. This is discussed in the Affected Environment, Vegetation Condition and Forest Health, Forest Insects and Pathogens. We are responding to the stand densification maps displayed within the *Southern California Mountains and Foothills Assessment* (Stevenson and Calcarone 1999).

2d. Effects of treatments in the WUI on surrounding resources

It is difficult to evaluate the Los Padres in the same document with the three other national forests. It just seems so strikingly different in nature from the urbanized, more southerly located forests. Even the application of science differs as the questions are so fundamentally different. It is not clear that Jon Keeley's work, which seems heavily cited, is appropriate in some portions of the LP.

FS RESPONSE: We relied heavily on the work of Max Moritz (1997), who studied the fire regime of Los Padres National Forest in detail. In general, his analyses support those of Keeley: i.e., he was not able to find evidence that fires are fuel-dependent except in the front country of the Santa Ynez Mountains. Except for the desert areas of the Mt. Pinos District, the Los Padres National Forest does not differ appreciably from the other national forests in the major components of its fire regime.

2e. Effect of altered fire regimes on biological diversity

1. The plan does not allow for integration of fire into land and natural resource managing activity such as wildland fire use in wilderness even though the plan notes that it will be integrated.

FS RESPONSE: We added a table that illustrates the WUI Environment label for these national forests based on many fast spreading fires that threaten communities within 24 hours as a basis for not utilizing fire use incidents. The integration is the use of confine/contain strategies and the use of

prescribed fire in place of naturally occurring fires. In addition, fire use is discussed for Alternative 6 in the Environmental Consequences section Effects on Vegetation.

2. The science consistency review elements are assessed in the DEIS on the basis of the expected outcomes on the plant community. Possible and/or expected wildland fire effects on the avian community are not explicitly examined. Thus, it is difficult to determine if the relevant science has been consulted or reasonably interpreted. The habitat based approach used in the DEIS, though understandable, poses a significant problem when it comes to assessing the science consistency of the Fire and Fuels portions of plan relative to the avian community.

FS RESPONSE: Some mention of avian response to fire management has been added to the FEIS. However, most information of this type can be found in the individual species accounts for species that are particularly affected by altered fire regimes.

3. The strategy for dealing with tree mortality and altered fire regimes, in mixed conifer forest is unclear. There also seems to be little reference to literature documenting the impact of air quality on tree retention. It seems difficult to evaluate the use of relevant science without a clear idea of what is being proposed and at what scale.

FS RESPONSE: More discussion of these topics has been added to the FEIS. Estimates are made of the number of acres likely to be treated in various ways on the four national forests. The discussion of tree mortality management is intentionally not site-specific in this FEIS because the revised forest plans provide strategic direction only. We agree that we have not included much scientific literature on the impacts of air quality on tree retention primarily because we think air quality effects have now been superceded by drought- and density-caused tree mortality.

4. Changes in the hydrologic regime of drainages where arroyo toads (and other aquatic species of concern) occur are recognized as primary threats to the species. Not mentioned here are the spectacular changes wrought by post-fire debris flows, which are potentially reduced by prescribed burning.

FS RESPONSE: The difference in sediment response between wildfires and prescribed fires is discussed in the section Effects on Watersheds of Chapter 3 of the FEIS. That arroyo toads (and other species) are sensitive to the effects of sediment and siltation in streams has been added to the species account(s).

5. In the DEIS the reduced impact of prescribed fires, relative to that of wildfires is recognized; what is needed is an objective analysis of the effects of prescribed burning on the subsequent wildfire regime. Also noted, a likely reduction in smoke emissions from wildfires is expected from intervention by prescribed burning. An objective analysis is needed of by how much emissions will likely be reduced over the long term is needed. If the basis for the assessment is lacking it should be stated.

FS RESPONSE: Detailed analysis of the effects of prescribed burning on future wildfire occurrence, via computer models or similar means, was not undertaken in this FEIS. That level of analysis is beyond the scope of the strategic direction presented in the revised forest plans. There would be relatively little difference between alternatives in the amount and possible distribution of prescribed fires, because all alternatives would focus fuel treatments on the Wildland/Urban Interface during the life of the revised forest plans (next 10-15 years). Similarly, detailed analysis of differences in emissions from prescribed fire by alternative was not done. Air quality effects of fire are discussed in the section Effects on Air Quality.

2f. Effect of fire and fuels treatments on spread of invasive species

There is a issue regarding the identification and documentation of management consequences, including associated and uncertainties for invasive species. There is very little clear discussion of responses needed or the prioritization of invasions.

FS RESPONSE: More discussion of the consequences of vegetation and fuels management on potential for invasive species establishment has been included in the FEIS. Prioritization of treatment would be determined by each national forest on a project-specific basis and thus is not discussed in the FEIS.

2g. Effect of fire and fuels treatments on fire spread

1. The scale at which this planning has occurred makes review for science consistency difficult. Current literature is relatively weak regarding fire spread and alterations of fuels. We do not know the true effect of landscape scale burning on fire safety and fire fighting effectiveness, particularly in southern California. It is important to note that the plan's strategy is not supported as much by science as by other constraints and unpublished or anecdotal information.

FS RESPONSE: Comment noted.

2. There is little detail provided on effects of the proposed treatments. The effects of season of burn, intensity of burn, etc. are not described.

FS RESPONSE: Some discussion of these effects has been added to the section on Effects of Vegetation Management under Effects on Biological Diversity. Moreover, these effects will receive greater attention in project environmental assessments, where they can be examined by individual vegetation type.

3. The DEIS claims that "Projected prescribed burning would not change the distribution of extreme wind driven fires, which govern the distribution of large patch-size fires." The Cedar Fire had burned 80,000 acres and reached the City of San Diego after 18 hours. It ultimately reached 273,000 acres. The difference in these sizes was obtained by burning largely laterally to or into the ambient wind. Prior prescribed burning might well have had an impact on that spread, especially if fire suppression resources had not been over-extended.

FS RESPONSE: The Cedar Fire burned under a burning index of 280 with spot fires of 1 1/2 miles. It jumped over lots of young age classes and only a burn conducted the same year (Tragedy Spring) had any impact on perimeter control. By the time the fire turned around after the winds died, there were plenty of resources available. One of the greatest challenges of the Cedar Fire was the unprecedented conditions: trying to fight a fire in chaparral that was 50 percent dead or timber stands that were 80 percent dead, due to the 2002 drought.

2h. Effects of herbicide use to control vegetation

There was little substantive science-related response from SCR team members on this subject.

FS RESPONSE: Substantive science related to the use of pesticides is now elaborated in Appendix O: Pesticide and Risk Assessment.

3. Protection of Natural Resources with Increasing Human Use

The review team provided considerable discussion on this topic, particularly certain aspects of it that will be apparent in the items below. Clearly it is a major task to assess the natural resources of concern within the planning area and project the potential effects of the alternative actions discussed in the EIS. The sheer geographic scope of the planning are coupled with the significant biological diversity of the region makes this task formidable. The Review Team appreciates the difficulty of amassing the available information and reporting it thoroughly and accurately. Notwithstanding the recognition of these challenges, we offer some observations that highlight shortcomings in the DEIS.

3a. Process to identify species-at-risk

1. The process used to identify species-at-risk (assigned ranks 1-6 and the rationale for the ranks) is necessarily subjective and the team understands that. Nevertheless, can we cite a defensible empirical

basis to assign a species to one threat level over another? The assigned threat category may or may not reflect reality. For some species we have fairly good information on distribution and abundance (e.g., mountain lions) but for many others we do not. For a number of sensitive mammals, threat level 2 (potential habitat only in the plan area) is assigned; do we really know that those species are not present in the plan area?

This approach may well be the only way to address this information, given a general lack of quantitative distribution data. However, the process might be improved upon if all available data were utilized. Most notably, specimen based museum records appear to be under utilized. As with many resource management planning efforts, this one is hampered by a scarcity of detailed information on the distribution and abundance of key species.

FS RESPONSE: Appendix B has been rewritten to clarify the process used to evaluate species-at-risk. The subjectivity of species classification into threat categories has been clearly acknowledged. Extensive use of museum specimen records was not made because of time constraints in preparation of 482 species accounts (unlike many herbarium records, most museum collection records do not seem to be available on-line). Many species accounts were revised to better acknowledge our uncertainty about species abundance and distribution.

2. Some reviewers had problems with Key Indicator table on page 3-26 (See Wirtz for more information). Key indicators are first mentioned on 3-14, and defined as "factors most likely to indicate movement either toward or away from desired resource conditions". A key indicator in the table is "dispersed rec. potential"; some reviewers are not certain what this means. Also, "fire regime" is a key indicator. Fire affects virtually all of these habitats, and different fire regimes may be expected to affect different habitats in different manners. Fire is probably the single major factor, but just saying that the key indicator is "fire regime" doesn't provide useful information.

FS RESPONSE: The number of key indicators has been reduced to two, with the primary useful indicator being the relative distribution of viability outcomes by alternative. This indicator is discussed in the FEIS. "Fire regime" and "dispersed recreation potential" have been eliminated as key indicators because they could not be clearly used, as noted. The effects of dispersed recreation on biological diversity are described and discussed, however, and expected variation in recreation potential by alternative described in the FEIS.

3b. Identification and description of species and natural communities

1. The accounts are called 'species' accounts, even though quite a few of these relate to infra-specific (subspecies or variety) taxa. More accurately, they should be called 'taxon accounts'.

FS RESPONSE: The term "species" is used in "species accounts" in the sense applied by the U.S. Fish and Wildlife Service, which includes sub-specific taxonomic categories. We acknowledge that many of the accounts actually deal with subspecies or varieties of plants and animals. The general public is more familiar with the word "species" than the word "taxon," however, and we thought it would be less mystifying to use the more recognizable term in our public documents. Therefore we continue to refer to the accounts as "species accounts" in the FEIS.

2. There are some errors in the identified legal status of some taxa as well as some problems with the identified taxonomic status. In the 'final' individual taxon accounts (provided as hard copies and on CD), there is a significant error in the nomenclature: both genus and species begin with upper case letters (this is generally not found in the draft versions that are on the web page created for the SCR team). Genera (nouns in Latin) always begin with an upper case letter. Specific and infra-specific epithets (adjectives in Latin) always begin with a lower case letter. By using an upper case letter, USFS gives the appearance of having elevated species to genera. Some nomenclature needs revision (e.g. the list of herps).

FS RESPONSE: The capitalization of specific and subspecific epithets was an artifact of our document preparation software. We were not attempting to elevate subgeneric categories to genus status! This should be corrected in the final documents. Scientific and common names have been updated for plant and animal taxa where newer information has been published. We appreciate the efforts of SCR team members who brought much of this information to our attention and provided references to recent literature.

3. Some taxonomic accounts need to be bolstered with more substantive facts and/or revised to be more accurate. There is inadequate information presented in some accounts to determine how the different alternatives would fare in predicting habitat suitability.

FS RESPONSE: Species accounts have been revised and updated in many cases, although we did not have time to rewrite all 482 accounts. Explanations of how viability outcome determinations were made have been strengthened in many accounts for species-at-risk. All species-at-risk accounts were updated to include viability outcomes for Alternative 4a.

4. It would help to organize the taxonomic accounts in systematic order. We realize that most of the audience for this document is non-scientific, however proper organization and presentation of the long list of taxonomic accounts will help a reader wade through the documents. The current arrangement of species in the various tables is extremely confusing.

FS RESPONSE: We agree that a more taxonomic organization of our tables, lists and species accounts in the Reading Room would be easier for scientist-readers to use. However, the large number of tables and lists that would have had to be revised precluded making substantial changes to the order in which animals and plants were listed.

5. A discussion of grasslands needs to be added to the Affected Environment section of the DEIS. This relatively dominant habitat type of this region deserves more discussion and consideration in terms of potential effects of the plan on the organisms that depend on this type. Further discussion about the possibility that many (perhaps most) of the alien-dominated 'grasslands' of southern California may not have been dominated by grasses before settlement is warranted as well. There are possibilities for restoring native bunch grass habitat to the planning area.

FS RESPONSE: In the affected environment of Livestock Grazing, Condition and Trend, the management of rangelands and the annual grassland community is discussed. Restoring native bunchgrass has not been identified as a priority for the planning period, as almost all vegetation management work will concentrate on community protection needs.

6. A discussion of biological crusts needs to be added to the Affected Environment section of the DEIS. This is a rather rare and less well known biological community but one that is particularly vulnerable and should be addressed when considering potential effects of various land uses.

FS RESPONSE: Biological crusts are discussed (admittedly briefly) in the Effects of Livestock Grazing on Biodiversity and the Effects of Livestock Grazing on Soils in the FEIS.

7. There are some additional taxa that should be on Forest Service Region 5 or individual forest sensitive or watch lists. The lists provided are primarily for the Los Padres NF.

FS RESPONSE: Adding species to the Forest Service Region 5 sensitive species list is out of the scope of this forest plan revision. The list has been given to botanists on the national forests for future consideration.

8. There are 287 plant taxa with individual taxon accounts. There was rarely sufficient information in the accounts to be able to follow the possible logic that lead to the assignment of threat category. The results of these spot checks, plus the numerous problems that were found, make the team uncomfortable with the overall quality of the accounts. We realize the enormity of the task to assess such a large and diverse array of plant taxa. However, this document purports to cover all these taxa within a context of effects

analysis. A few of the accounts look quite thorough. With other taxa there are significant problems that may effect the conservation and management of the taxa. Some individual taxon accounts are diffuse, redundant, uneven, and sometimes confusing. Headings do not match among accounts. Information that should be reported under specific headings (e.g., threats) often is spread throughout the reports. The same information is not infrequently unnecessarily repeated under multiple headings. Again we acknowledge the sheer enormity of the task but we believe that this feedback, while appearing negative, is necessary to guide you towards development of a more complete final document.

FS RESPONSE: Species accounts have been revised and updated using information provided by the SCR reviewers and other sources. Attempts have been made to standardize the format of the accounts, but some inconsistencies may not have been corrected due to the magnitude of the editing task, as noted by the review team. Very little information is available for some taxa.

9. Sources of information and citation style should be standardized.

FS RESPONSE: We attempted to standardize the citation style, but may have missed things in the species accounts due to the magnitude of the editing task, as noted by the review team. We changed most of the (Hickman 1993) citations to the individual taxon authors, although the magnitude of the editing task means that a few may have been overlooked. Frequently references to the Jepson manual in scientific literature do not refer to individual authors, so we do not feel that this is a grievous error if we missed a few (no offense meant to the taxon authors).

3c. Species-at-risk viability evaluation

1. Some SCR team members disagree with certain species vulnerability assessments. These assessments are a matter of professional judgment. Strengthening the justification of vulnerability calls with whatever information is reasonably available is recommended. Where appropriate, integrating comments from SCR team members would be helpful.

Where is the published scientific literature that supports using a qualitative assessment of habitat suitability and no direct prediction of species persistence as a surrogate for viability? Why couldn't the population data also be part of the outcome prediction for National Forest lands?

There is a critical statement on 3-70: "habitat of sufficient quality, distribution and abundance must be available for these species to be well-distributed across their existing range in the planning area." The critical assumptions supporting this statement are: 1 - we know where they are, 2 - we know what they require, 3 - we can repair habitat which is degraded/damaged, and 4 - we can teach the public the value of these organisms. This is a task of monstrous proportions, and it cannot be achieved with present Forest Service personnel levels or present funding levels. There are numerous statements in the DEIS like "if funding permits", or "given budget constraints" in this document. They should be made much stronger if the Forest Service has any hopes of achieving the goals presented here.

The viability assessment methodology used in the DEIS may be providing an overly optimistic view of the ecological future for the four national forests in the planning area. The DEIS is a strategic document designed to define a framework for the development of manuals, species accounts, plans, etc. However, the majority of the SCR team felt that the viability assessment methodology in the DEIS may be too subjective to determine whether or not native species in the planning area will be maintained.

The subjectivity of the viability outcome statements process is difficult to defend. For each of the 6 DEIS Alternatives, sensitive vertebrates are assigned to one of five viability categories (A-E; good-bad). These subjective assignments are "rational" (as per Appendices - 9) under the general themes of the different alternatives but this does not mean that they are realistic representations of viability outcomes. They are guesses. It needs to be emphasized that these viability categories are largely habitat-based; making assumptions about species and population viability based on coarse level habitat information and few if any data on population dynamics is at least optimistic.

Under the constraints of this handicap, some members of the team believe the analyses are generally well done, but resulting Threats and Viability analyses are likely to be accordingly inaccurate and imprecise for some (many?) species. Although these handicaps are recognized, there is no apparent resolve to rectify the problem. Specifically, there is no scheme or directive to improve the quantitative knowledge base for species-at-risk or for that matter, species in general. While acknowledging the strategic nature of the proposed forest management plan, the fundamental problem facing forest management and the development of forest management plans, lack of basic distribution and life history data, remains unresolved. The lack of presence/absence, distribution, and life history data for the majority of vertebrate terrestrial species (not to mention other taxonomic groups) is not new, but rather has been and will continue to be a persistent impediment to managing the southern California National Forests.

FS RESPONSE: Appendix B, Species Viability Evaluation Process has been revised to more clearly explain the qualitative nature of the assessment process and the uncertainties and data gaps that went into it. We clearly acknowledge that the projected outcomes are "best guesses" by Forest Service biologists and botanists based on agency knowledge of habitat distribution and condition and the reviewed scientific literature in the species accounts. We had to assume in the assessment that forest plan direction would be implemented as intended, as there is no way to predict whether agency budgets will substantially increase or decrease in the future, and the forest plans were developed with current implementation ability in mind. We realize that our admittedly-subjective predictions may not be satisfying to biologists who would like to have more certainty about the fate of species of concern.

2. Not covered in the viability outcomes are the broader, ecosystem-level effects to the natural communities of the aquatic species. Most of the aquatic species of fish and amphibians on the southern California national forests are threatened, endangered, sensitive or headed in that direction. To maintain the biodiversity of aquatic species requires a reduction in the adverse effects in the aquatic and riparian areas and there is no indication of how this would happen under the preferred alternative. There needs to be more discussion and acknowledgement that entire aquatic ecosystems are degraded and must be restored and protected if the aquatic species are to be maintained.

FS RESPONSE: One of the major factors affecting populations of riparian and aquatic species in southern California is the loss of connectivity of habitat at low elevations due to development and channelization for flood control. Without the ability to recolonize habitat affected by flooding or water loss during drought from other watersheds, many aquatic species in southern California have been in decline for decades. Similarly, upstream dams and water diversions, which have greatly altered flow regimes in virtually all southern California stream systems, are permitted and regulated by other agencies and authorities. Solving these major causes of species endangerment and ecosystem degradation is beyond the scope of the revised forest plans or the control of the Forest Service. Even reintroduction of species to stream reaches from which they have been eliminated is under the control of the U.S. Fish and Wildlife Service, National Marine Fisheries Service (NOAA Fisheries), or California Department of Fish and Game, not the Forest Service. Strategies and standards in the revised forest plans direct the Forest Service to protect at-risk species from activities under our control and to mitigate impacts when they occur. As opportunities present themselves during relicensing of hydroelectric power projects where we do have authority to condition a license, as an example, we will apply the standards that are found in Part 3 of the revised forest plans. This is disclosed in the FEIS and the species accounts.

3. There is some suggestion of new recreation opportunities that may be developed where they are determined to be sustainable and compatible with other resources. The DEIS seems to imply that at least some alternatives can simultaneously assist in the protection and conservation of aquatic and riparian habitats. How will this happen? 60 plant taxa at risk and 29 animal taxa at risk are found in habitats affected by recreation. Both riparian and meadows are potentially affected by recreation. The discussion of potential effects to taxa at risk would be more meaningful if it presented some specific examples of

what could be done to ameliorate potential adverse effects (e.g. for arroyo toad and their habitat near campgrounds next to streams; can the campgrounds be moved, grazing excluded from all occupied arroyo toad sites, etc.) under the different alternatives. The basic point of this comment is we find it difficult to understand how the DEIS reconciles and/or analyzes these potential conflicts.

FS RESPONSE: Site-specific solutions to particular threats to individual species are beyond the scope of the revised forest plans, which are strategic documents, or the analysis in this FEIS. However, the forest plans provide tools and the direction to use them to solve conflicts between at-risk species and other uses of the national forests. The Forest Service is directed to carry out multiple use management and must strike a balance between allowing use of the land and protecting the resources contained therein. Site-specific analysis and actions will be used during implementation of the revised forest plans to address specific conflicts between rare species and adverse effects from facilities or activities. Before any new recreation sites would be built, site-specific analysis of potential effects would be conducted, and mitigation measures would be developed if adverse effects to at-risk species were identified. The selected alternative has less emphasis on meeting projected recreation demand than did one of the preferred alternatives.

4. We were told by Forest Service staff at the Science Consistency Review meeting in October, 2004 to assume that all threats to the federally listed arroyo toad were already taken care of in recreational projects, and to assume that any new project would be heavily scrutinized. Yet, in the arroyo toad species account, it discusses the impacts of campgrounds and roads and mentions seasonal closures and/or restrictions have been implemented at some campgrounds, and that several road crossings in toad habitat are being evaluated. If all of the threats have been eliminated we recommend that the EIS explicitly explain this in the species accounts or elsewhere in the document.

FS RESPONSE: More information on recent actions taken by the Forest Service to protect species-at-risk, such as the arroyo toad, has been added to the species accounts. This information is most detailed for federally-listed species.

5. There appears to be a mistake in the predicted outcomes for the mountain yellow-legged frog. In Table 371 in the DEIS, it shows E, D, D, D, E, D for Alternatives 1-6. Yet the table in the individual species account shows all Es for Alternatives 1-6.

FS RESPONSE: These errors have been corrected. The species account and table 371 are now consistent.

6. The assumption that all suitable habitats will be occupied introduces a large degree in uncertainty in the viability evaluations. The qualitative approach to cope with the lack of quantitative life history and distribution data also introduces a large degree of uncertainty in the evaluation outcomes. The overall result is a large degree of uncertainty in the relevant management consequences, risks and uncertainties in the species-at-risk evaluations. While the vagaries of the viability evaluations are acknowledged to some degree in the DEIS, they need to be explicitly explored or elucidated, even if the best possible answer is to acknowledge that the viability evaluations are simple best guesses. In short, the problem identified by the species-at-risk viability evaluation, lack of quantitative data, is not rectified by the Identification of Conservation Needs nor the Species Management or Conservation Strategy elements. Depending on the alternative, deleterious affects to some (most?) at-risk-species will not be mitigated. Extending the survey, inventorying, and monitoring strategies to all at-risk species, when present, and not just those species identified in Table 375 can rectify the problem

FS RESPONSE: The qualitative nature of the viability outcome assessments is emphasized and acknowledged in Appendix B, Species Viability Evaluation Process. Table 375 has been dropped from Appendix B. Each forest plan contains strategic direction in Part 2 that includes priority species for survey, habitat improvement, monitoring efforts and so forth (similar to what was in Table 375); these lists are not all-inclusive but instead try to reflect realistic program-of-work loads

for the next 3-5 years. Thus for many species there may continue to be a lack of quantitative data available, unless data are produced by investigators outside of the Forest Service.

3d. Effects of modified human use on riparian and aquatic habitats/species; how well were the effects analyzed?

1. The DEIS does not appear to address this element very thoroughly with respect to effects on taxa at risk. Specifically, the DEIS does not adequately address how the viability of aquatic taxa will be maintained with increased recreational activities or whether any levels of recreational use are compatible with maintaining aquatic species biodiversity. There is too much uncertainty in the potential effects, due in part to the lack of specificity on the extent and intensity of recreational activities, to accurately assess how sensitive aquatic organisms might respond.

FS RESPONSE: The FEIS analyzes the effects of forest plan alternatives at a strategic level. This is admittedly a rather coarse scale type of analysis. We specifically did not intend to do site-specific analysis of the effects of particular recreation sites or activities in specific locations on individual species. A biological assessment of the effects of on-going activities on federally-listed species will be prepared when or shortly after the revised forest plans are published; this will deal more specifically with site-specific impacts to federally-listed species. In addition, site-specific analysis is done whenever a new project is proposed or modifications are proposed to existing recreation sites or other authorized uses of the national forests that affect riparian and aquatic species. A number of specific standards were developed to provide consideration and protection of aquatic and riparian habitats, such as standards S11 and S47. These standards will help project leaders and decision makers during site-specific analyses.

2. Other members of the team offer that the Draft EIS, albeit general in its detail, by and large provides adequate scientific information concerning the physical and biological properties of aquatic and riparian ecosystems. However, the scientific information for project specific environmental documents will require additional discussion of the specific changes that occur within aquatic and riparian communities with altered land use and project specific functional analysis for the affected areas. We acknowledge that this EIS is presented at the programmatic level but we caution that these crucial analyses will need to occur.

FS RESPONSE: Project level analysis of environmental effects includes the greater detail mentioned. The analysis in this FEIS is intended for evaluation of the strategic direction in the revised forest plans only -- it is not intended to be sufficient to make decisions about site-specific projects.

3e. Effects of modified human use on watershed health (soils, water)

1. The Draft EIS utilizes adequate scientific information concerning the physical and biological properties of aquatic and riparian ecosystems. The scientific information for project specific environmental documents would be enhanced with additional discussion of the relationship between sediment transport and changes in stream channel morphology in fluvial systems throughout southern California. The combination of high intensity rainfall events, poor soil development and steep slopes often generates high magnitude storm events that transform stream channel morphology and associated riparian habitat, which should be recognized when describing aquatic and riparian habitat areas and evaluating potential human impacts on stream channel morphology, aquatic and riparian habitat in southern California. The Corps, Regulatory Branch would recommend that the above information be incorporated into future environmental analysis for project specific documents.

FS RESPONSE: Site-specific analysis of effects for new projects typically contains the information recommended in this comment.

2. The Draft EIS provides adequate scientific information concerning the physical and biological properties of aquatic and riparian ecosystems and the effects of modified human use on these habitat types, including detailed discussion of the effects of road construction, cattle grazing, suction dredging and sand and gravel mining on riparian and aquatic habitat. However, the scientific information for project specific environmental documents would be enhanced with additional discussion of the specific characteristics of riparian and aquatic habitat in southern California, including the suite of hydrologic, biologic and biogeochemical functions typical of these habitat types. The environmental analysis for project specific documents would be augmented by utilizing one of several functional assessment methods for estimating the level of physical and biological functions present in wetland and riparian areas, potential degradation of physical and biological functions associated with proposed projects and for assessing the success of mitigation sites.

FS RESPONSE: Site-specific analysis of effects for new projects typically contains the information recommended in this comment.

3f. Effects of unmanaged recreation (e.g., OHV, target shooting) on habitats and species-at-risk

1. The EIS should specifically recognize legal take authorities for certain species. For example, some taxa of herps are actively collected for a number of reasons including for the pet trade. This could have an impact on the status of the taxa and the restrictions to this activity are relevant to the overall status of the affected taxa.

FS RESPONSE: Legal take of species is regulated by the California Department of Fish and Game (CDFG). We did not have any information available on how many individuals of legally-taken reptile and amphibian species are collected each year on the national forests in southern California, so we did not specifically mention take levels in the species accounts. We must assume that CDFG would not allow collection of these species if their experts did not believe that population levels were sufficient to support such take; we have no information to contradict this assumption.

2. As written, the DEIS does not adequately address how the species viability will be maintained with increased recreational activities or whether any levels of recreational use are compatible with maintaining aquatic species biodiversity. Increased recreational activity is assumed in most of the alternatives however the specific affects of a variety of possible scenarios that will include more recreation, particularly in sensitive areas where both more recreation and species at risk are likely to occur are not adequately revealed or analyzed. This could have profound effects under some possible combinations of future recreational activity and sensitive species conditions.

FS RESPONSE: The discussion of the effects of recreation activities on species-at-risk has been expanded in the FEIS. However, site-specific detailed analysis of potential recreation effects on individual species is not appropriate at the scale of a strategic planning document, as is the FEIS for the revised forest plans.

3h. Effects of land uses on natural communities

Although the traditional view of succession was not directly addressed in the DEIS, it was alluded to. A more appropriate paradigm has been available for some time. State-and-transition (sensu Westoby et al. 1989), disequilibrium (sensu Davis 1984), dynamic equilibrium (sensu Webb 1986), non-equilibrium (sensu Westoby et al. 1989), unstable equilibrium (sensu Malin 1984), etc., models have replaced traditional Clements succession as a method of understanding vegetation change. The ecological literature has contained discussions of these models since at least the 1960s (see Laycock 1991, and Margalef 1969, Holling 1973, May 1977, Wissel 1984, etc., cited therein). The conceptual bases for the models allow for a range of alternative states, discontinuous and irreversible transitions, dynamic communities, and stochastic events playing a large role in determining vegetation composition (Milton et al. 1994, Noy-Meir & Walker 1986, Westoby et al. 1989).

FS RESPONSE: Succession is not discussed extensively in the FEIS; about the only references to "early seral stages" occur in the sections that deal the effects of vegetation modification within WUI defense and threat zones and along fuelbreaks. No inferences about successional trajectory are implied by the use of this phrase -- we simply mean to illustrate that low stature herbaceous vegetation tends to be more common after disturbance (mechanical or fire) than mature shrubs or trees. We did not feel that it was necessary to add literature references to successional theory to the FEIS.

3i. Effects of livestock grazing on habitats and species-at-risk

1. Again, as noted in the species viability section, the discussion of the implications of grazing on species-at-risk and their habitats is very weak. This potential effect should be more thoroughly analyzed.

FS RESPONSE: More information about the effects of grazing, both negative and positive, on biological diversity in rangelands has been added to the FEIS. Where appropriate, information on grazing impacts has been added to species accounts as well. Effects of grazing on soil crusts were mentioned in the more detailed individual SCR team members' comments. The FEIS discusses implications and potential effects of livestock grazing on soil crusts and management to minimize and retain health of crusts in the section Effects on Soils.

2. One reviewer felt that there is a lack of credible scientific evidence that livestock use of the public range is beneficial. Also, the ecological impacts of livestock grazing have not been completely identified in the DEIS. Another reviewer felt that there may be beneficial effects of livestock grazing in keeping bodies of water from becoming overgrown with certain types of competing vegetation. The ecological costs and benefits of livestock need to be more fully discussed with literature references.

FS RESPONSE: As noted above, more discussion of both negative and positive impacts of grazing on biological diversity, vegetation, soil, and riparian areas has been added to the FEIS Chapter 3, including literature citations. SCR team members recommended an extensive list of literature to be reviewed regarding the effects of livestock grazing. A number of these references are cited.

3. Although the controversial hypothesis that plants depend on, and may benefit from, being grazed was never directly addressed, there were inferences made. These inferences should be supported with scientific evidence and citations.

FS RESPONSE: This controversy is more explicitly mentioned with literature references in the FEIS.

3. Although the controversial hypothesis that plants depend on, and may benefit from, being grazed was never directly addressed, there were inferences made. These inferences should be supported with scientific evidence and citations. (See Painter for more information)