

4. Consultation and Coordination

4.1 Preparers and Contributors

The Forest Service consulted the following individuals, federal, state, and local agencies, tribes and non-Forest Service persons during the development of this environmental impact statement.

4.1.1 Interdisciplinary Team Members

Name	Title	Education / Responsibility / Experience
Joanna Arroyo	Wildlife Biologist	MS in Wildlife Management; BS Wildlife Management, New Mexico State University, Las Cruces, New Mexico. 3 years combined experience in Wildlife.
Linda Morehouse-Braxton	Assistant Resource Officer	26 years experience with the Forest Service – various resources including recreations/lands/minerals management; timber sale preparation/administration; and business administration.
Rick Case	District Fuels Specialist	25 years experience in fire and fuels.
Deirdre Cherry	Fuels Technician	BS in Athletic Training, Boise State University, ID; Technical Fire Management, University of Colorado. 18 years of experience in Fire and Fuels.
Chris Christofferson	Assistant District Botanist	BS in Biology with an emphasis in Ecology, California State University, Chico; MS in Integrated Pest Management, University of California, Davis. 8 years of experience in Botany and Pest Management. California Pest Control Advisor (License #AA02797).
Jerry Gott	District GIS Coordinator	BA in Natural Sciences, California State University, Chico. AA in English, Shasta College. 6 years experience in GIS; 21 years in Timber Sale Planning, Preparation, and Administration; 4 years in Fire Management (Helitack); 2 years in Recreation (Trails).
Kristina Hopkins	Forest Fisheries Biologist	Plumas National Forest.
Linnea Hanson	District Botanist	BS in Biology, emphasis in Botany from the University of the Pacific. MS in Biology, emphasis in Plant Ecology, California State University, Sacramento. 28 years of experience in Botany.
Pete Hochrein	Forest Transportation Engineer	BS in Forest Resource Management from University of California, Berkeley, CA. MS in Forestry from Oregon State University. 26 years experience with the Forest Service.
Crispin Holland	Rangeland Program Manager	BS in Rangeland Resource Science (minor in Botany & Soils), Humboldt State University, Arcata, CA. 13 years experience with Forest Service.

4.1.1 Interdisciplinary Team Members—continued

Name	Title	Education / Responsibility / Experience
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Susan Joyce	Planner	BS in Anthropology from Franklin and Marshall College, Lancaster, PA; MS in Forestry from Michigan Technological University, Houghton, MI. 3 years experience in community development and 2 years in planning.
Fred Levitan	Hydrologist	BS in Geology from Stanford University, Stanford. CA. MS candidate in Environmental Systems, Humboldt State University, Arcata, CA. 15 years experience.
Bob Lowdermilk	Logging Systems / Transportation Planning	BS in Business Management from Western Carolina University, Cullowhee, NC. 34 years experience in timber sale planning, preparation, and administration.
Kevin McCormick	Forest Archaeologist	BA in Anthropology, California State University, Fresno. 29 years experience in heritage resource management.
Elizabeth McDaniel	Cartography Technician	GIS Certificate, University of California, Riverside. 17 years experience with the Forest Service.
Sharen Parker	NEPA Planner	BS Environmental Studies with an emphasis in Ecology, Charter Oak State College, New Britain, CT; 10 years forest genetics/NEPA at the Genetic Resource and Conservation Center, Chico, CA. 17 years combined experience with the Forest Service
Cindy Roberts	District Wildlife Biologist	MS in Wildlife Management, BS Wildlife Biology from Sacramento State University, Sacramento, CA. 16 years experience in Wildlife Management.
Daniel Roskopf	Forester, Silviculturist	B.S. Forest Resource Management, Minor Natural Resources, Humboldt State University, 1984; Silviculture Institute, Oregon State University and University of Washington, 1992. California Certified Pesticide Applicator. 22 years experience in Fire, Timber, and Silviculture.
Carol Spinosa	Editor	13 years experience in NEPA planning with the Forest Service with an extensive background in Forestry, Biology, and Communications; 3 years experience as environmental private consultant.

4.1.1 Interdisciplinary Team Members—continued

Name	Title	Education / Responsibility / Experience
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Katherine Worn	District Planner	BS in Forestry, MS in Interdisciplinary Natural Resources, Humboldt State University, Arcata, CA. 20 years experience in natural resource management.
Kelly Whitsett	District Hydrologist	MS in Hydrogeology University of Arkansas, Fayetteville, AR; BS in Geology and Geophysics, University of Missouri, Rolla, MS. 5 years experience in Forest Hydrology.

4.1.2 Federal, State, and Local Agencies

The Forest Service consulted with the following federal and state agencies during the development of this environmental impact statement.

Informal consultation for the California red-legged frog and early involvement for Forest Service Sensitive Species was initiated with the US Fish and Wildlife Service (USFWS) on May 5, 2004. A meeting was held on that date at the Feather River Ranger District office with Feather River Ranger District wildlife staff and Kathy Brown of USFWS. Threatened, Endangered, Proposed, or Sensitive, and candidate species with potential to occur in the project area were reviewed. Communications between the USFWS and the Forest Service have been ongoing since initial contact with the USFWS.

The USFWS species list for the Plumas National Forest was issued on April 23, 2003 (USFWS reference 1-1-03-SP-1810) and updated by computer database on March 25, 2005. This list fulfills the requirements to provide a current species list pursuant to Section 7(c) of the *Endangered Species Act*, as amended.

The Draft Study Plan for the Plumas and Lassen National Forests Administrative (now referred to as Plumas Lassen Case Study), dated 12 September 2001, was reviewed by the USFWS, as was the Proposed Action for the Administrative Study dated December 10, 2002. A USFWS letter dated January 31, 2003 responded to the initial proposed action, expressing concern over specifically road construction needed for access to group selection harvest units and its effect on fragmentation to old forest dependent species.

The California Department of Fish & Game was contacted during scoping for the Watdog Project and provided the proposed action. The California Department of Fish & Game manages wildlife populations for the State of California, however, typically their emphasis with the Forest Service is game species such as the local deer herds and associated habitats.

4.1.3 Tribes

The following federally-recognized Tribes and interested and affected tribes were consulted regarding the Watdog project: Mooretown Rancheria, Enterprise Rancheria, Berry Creek Rancheria, Chico Band of Mechoopda Indians, and the Konkow Valley Band of Maidu. No concerns were raised during consultation.

4.1.4 Organizations and Individuals

The project was presented in the fall of 2002 to the Plumas and Butte Fire Safe Councils. In addition, numerous Forest Service employees provided technical support.

4.2 Distribution of the Final Environmental Impact Statement

The final environmental impact statement was distributed to agencies, organizations, and individuals as required by the *National Environmental Policy Act* regulations (40 CFR 1502.19). In addition, copies have been sent to the following Federal agencies, federally recognized tribes, interested and affected tribes, State and local governments, and organizations. The complete mailing list is on file at the Feather River Ranger District Office.

4.2.1 Federal, State, and Local Agencies

Council on Historic Preservation

Director for Planning & Review Advisory, Washington DC

Environmental Protection Agency

Region 9 Federal Activities Office, Karen Vitulano, San Francisco, CA

EIS Filing Section, Washington DC**Federal Aviation Administration, Western-Pacific Region, Lawndale, CA****Federal Highway Administration**

California HDA-CA, Sacramento, CA

National Marine Fisheries Service, Longbeach, CA**US Department of Homeland Security**

U.S. Coast Guard, Washington DC

US Department of Agriculture

Natural Resources Conservation Service, Washington DC

APHIS PPD/EAD, Riverdale, MD

National Agricultural Library, Beltsville, Maryland

Forest Service, Ecosystem Management Coordination, Washington DC

US Department of Defense

Army Engineer Division, CESPDP-CMP, San Francisco, CA

US Department of Energy

Office of NEPA Policy & Compliance, Washington DC

US Department of the Interior

Fish and Wildlife Service, Wayne S. White, Sacramento, CA

Director, Office of Environmental Policy & Compliance, Washington DC

4.2.2 Tribes, Organizations, and Individuals

A summary of the Watdog Final Supplemental Environmental Impact Statement (FSEIS) was sent to the following federally recognized tribes and interested and affected tribes: Berry Creek Rancheria, Chico Band of Mechoopda Indians, Enterprise Rancheria, Konkow Valley Band of Maidu, and Mooretown Rancheria.

List of Acronyms

BA	Biological Assessment
BACM	Best Available Control Measure
BE	Biological Evaluation
BMP	Best Management Practices
CASPO	<i>The California Spotted Owl: A Technical Assessment Of Its Current Status</i> (Report)
CCF	Hundred Cubic Feet
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CRWQCB	California Regional Water Quality Control Board
CSSC	California Soil Survey Committee
CWHR	California Wildlife Habitat Relationships
CWE	Cumulative Watershed Effects
DBH	Diameter at Breast Height
DEIS	Draft Environmental Impact Statement
DFPZ	Defensible Fuel Profile Zone
EHR	Erosion Hazard Rating
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ERA	Equivalent Roded Acres
FEIS	Final Environmental Impact Statement
FOFEM	First Order Fire Effects Model
FRA	Forest Recovery Act
FSEIS	Final Supplemental Environmental Impact Statement
GIS	Geographic Information System
HFQLG	Herger-Feinstein Quincy Library Group

HRCA	Home Range Core Areas
IDT	Interdisciplinary Team
ITS	Individual Tree Selection
LRMP	Land and Resource Management Plan
LSOG	Late-Successional Old-Growth
MIS	Management Indicator Species
Mmbf	Million Board Feet
NEPA	National Environmental Protection Act
NFMA	National Forest Management Act
NOI	Notice of Intent
No _x	Nitrogen Oxide
NRHP	National Register of Historic Places
NTMB	Neotropical Migratory Bird
OHV	Off-Highway Vehicle
OSR	Overstory Removal
PAC	Protected Activity Center
PM	Particulate Matter
PNL	Plumas National Forest
Ppm	Parts Per Million
PSW	Pacific Southwest Research Station
RCA	Riparian Conservation Area (Under SNFPA)
RHCA	Riparian Habitat Conservation Area (Under HFQLG)
RCO	Riparian Conservation Objective
RI&D	Route Inventory And Designation Process
RMO	Riparian Management Objectives
ROD	Record of Decision

ROS	Recreational Opportunity Spectrum
SAT	Scientific Analysis Team
SEIS	Supplemental Environmental Impact Statement
SMC	Sierra Mixed Conifer
SMZ	Streamside Management Zone
SNFPA	Sierra Nevada Forest Plan Amendment
SOC	Species of Concern
SOHA	Spotted Owl Habitat Areas
SWTH	Swainson's Thrush
TES	Threatened, Endangered And Sensitive
TOC	Threshold of Concern
USDA	United States Department Of Agriculture
USFWS	US Fish and Wildlife Service
VOC	Volatile Organic Compound
VQO	Visual Quality Objective

Glossary of Terms

active crown fire — the independent movement of flames from a fire through the branches and top of the trees.

age class — a distinct aggregation of trees originating from a single natural event or regeneration activity.

all-aged — see uneven-aged.

allelopathic — the suppression of growth of one plant species by another due to the release of toxic substances.

basal area — the combined area of the cross-sections of tree boles at a height of 4.5 feet above the ground, generally given as square feet per acre.

biomass — limbs and foliage (parts of trees other than logs) that can be collected, chipped, or ground; exported from the forest; and used for power production or manufacture of wood fiber products.

bole — the main stem of a conifer tree, which becomes a log or logs when the tree is cut.

California Wildlife Habitat Relationships — a system developed jointly by FS Region 5 and the California Department of Fish and Game that classifies forest stands by dominant species types, tree sizes, and tree densities and rates the resulting classes in regard to habitat value for various wildlife species or guilds. The CWHR system has three elements: (1) major tree dominated vegetation associations, (2) tree size, and (3) canopy cover. Tree-size and canopy-cover classes are:

Tree Size Classes

- 1 = Seedling (less than 1 inch dbh)
- 2 = Sapling (1–6 inches dbh)
- 3 = Pole (6–11 inches dbh)
- 4 = Small (11–24 inches dbh)
- 5 = Medium/Large (greater than 24 inches dbh)
- 6 = Multilayered (size class 5 over a distinct layer of size class 3 or 4, total canopy greater than 60-percent closure). In this EIS, class 6 is included in class 5.

Canopy Cover Classes

- S = Sparse Cover (10–24 percent canopy closure)
- P = Poor Cover (25–39 percent canopy closure)
- M = Moderate Cover (40–59 percent canopy closure)
- D = Dense Cover (greater than 60 percent canopy cover)

canopy — the branches and foliage of trees (as distinct from the stem or bole).

canopy cover — the ground area covered by tree crowns, or the degree to which the canopy blocks sunlight or obscures the sky, expressed as a percent of ground area. Also referred to as canopy closure or crown cover.

closed road — a road from which mechanical equipment is excluded. A FS road in closed status is a road that is still part of the FS road system but has been closed to traffic by some type of barrier, such as a gate, berm, or boulder(s).

crown — see canopy.

crown bulk density — canopy weight per unit volume.

crown cover — see canopy cover.

decommission — closing a road to mechanical use and returning the road to a natural or semi-natural condition. This could include removing stream crossing fills and structures (e.g., culverts or bridges), recontouring to natural topography obliteration (e.g., replacing fill slope material against cut slopes), surface shaping (e.g., constructing in-road water bars), and/or surface scarification.

defensible fuel profile zone — a zone approximately ¼ mile wide accessible to fire fighters (usually along roads) in which fuel loads are light enough to cause approaching crown fires to drop to the ground where it may successfully be attacked by ground forces during 90th percentile weather conditions.

diameter at breast height — the diameter of a tree measured at 4.5 feet above the ground on the uphill side.

direct economic impact — effects caused directly by forest harvest or processing or by forest uses.

disturbance — a natural phenomena a fire or flood or earthquake etc.

dripline — the perimeter of the vertical projection of a tree canopy upon the ground.

effective ground cover — is the amount of ground cover left after the fire it is expressed in percent.

equivalent roaded area — a conceptual unit of measure used to assess ground disturbing activities. All landscape disturbances are evaluated in comparison to a completely impervious or roaded surface. Road surfaces are considered to represent 100% hydrologic disturbance, with maximum rainfall-runoff potential. Other ground-disturbing activities are assigned disturbance coefficients that represent a typical ratio of their hydrologic impact compared to the same roaded area. Disturbance coefficients are assigned based on local conditions. In a given watershed, disturbances are added together to determine a cumulative ERA and compared to the Threshold of Concern (TOC).

fire brand — burning material, such as foliage, that is carried by the wind to start new fires outside the main fire (spotting).

fire regime and condition class — an interagency, standardized tool for determining the degree of departure from reference condition vegetation, fuels and disturbance regimes. Assessing fire regime and condition class can help guide management objectives and set priorities for treatments.

fuel arrangement — how fuels are distributed in the fuel bed.

fuel bed — The fuels both living and dead that are available to burn.

fuel strata — this is the vertical and horizontal continuity and arrangement of the fuel bed.

grapple pile — gathering and piling of thinnings, harvest slash, and brush using mechanical equipment.

group selection — a silvicultural system that involves harvest of small areas of trees (generally less than 2 acres). Implementation results in uneven-aged (all-aged) forests consisting of small even-aged (same-

aged) groups. Harvest openings must be large enough to allow for sufficient sunlight for regeneration tree seedlings to establish and grow.

grubbing — removal of vegetation at or below ground level with hand tools.

hand piling — piling branches and limbs from tree harvests or thinnings by hand for burning at a later time.

handline — fire lines created by forest workers using shovels and hand tools to remove organic materials and expose mineral soil. The line width generally ranges from 2 to 3 feet.

Home range core area — mapped foraging area.

horizontal arrangement — the horizontal distribution of fuels at various levels and planes.

indirect economic impact — Effects that occurs when supporting industries sell goods or services to directly affected industries.

induced economic impact — Effects that occur when employees or owners of directly or indirectly affected industries spend their income within the economy.

ladder (fuel) — shrubs or trees that connect fuels at the forest floor to the tree crowns

landings — forested openings, cleared of vegetation, leveled, and graded, which are used to store (deck) logs and eventually to load log trucks for haul to the mill.

late successional old growth ranks 4 and 5 — late mature successional stages of forest trees, as defined by the Sierra Nevada Ecosystem Project (volume II, appendix 21.1).

leave trees — the trees that are purposefully left in a stand that is thinned or harvested.

lotic — of, relating to, or living in actively moving water.

mast — the fruit of the oak and other forest trees used as food by wildlife.

mastication — mechanical grinding of harvest residue or thinnings. Masticated material is usually left scattered on the harvest site.

mechanical thinning — the use of tractors, cable systems, or helicopters to remove trees that have been cut by chainsaws. Also refers to the use of feller-bunchers—wheeled vehicles with lopping shears or saws that cut and collect trees and carry them to a landing site.

midden — refuse heap, dunghill, a small pile of seeds, bones, or leaves gathered by a rodent.

multi-layer — stand with three or more distinct foliage layers (canopies). Trees in the different layers may or may not be in the same age class.

mycorrhiza — the symbiotic association of the mycelium of a fungus with the roots of a seed plant.

90th percentile fire weather conditions — hot, dry, and windy weather conditions that are exceeded only 10 percent of the time during fire season. 90–97th percentile conditions are considered “high,” 99–100th percentile are considered “extreme.”

offbase and deferred areas — federal lands identified in the HFQLG Act from which timber harvest and road construction are excluded during the term of the HFQLG pilot project.

operability — the ability to conduct vegetation management operations, which include construction of access roads and log landings, use of cable logging systems, clearing of central skid trails for tractor logging, and removal of trees that pose hazards to forest workers.

passive crown fire — is the movement of fire through groups of trees it usually does not continue for long periods of time.

piling and burning — piling harvest or thinning residues (branches and limbs) and burning them when moisture content has been reduced through evaporation, wildfire hazard is low, and atmospheric conditions are favorable for dispersal of smoke.

prescribed burning — fire purposefully ignited to achieve a beneficial purpose, such as reducing fuels on the forest floor or fuels generated by logging or thinning forest trees.

present net value — The present net value which includes only the benefits and costs of producing primary outputs, excluding secondary benefits.

primary skid trails — skid trails over which equipment has skidded or will skid logs three or more times.

production rates — is the amount of fireline distance expressed in chains that a suppression resource can establish in a given time period.

rate of spread — the relative activity of a fire in extending its horizontal dimensions. It is expressed as rate of increase of the total perimeter of the fire, for this document it is expressed as rate of forward spread of the fire front, and is measured in chains per hour.

reconstruction — rebuilding of an existing road in or adjacent to its current location to improve capacity and/or correct drainage problems.

regeneration — tree seedlings and saplings that have the potential to develop into mature forest trees.

residual trees — trees that are left to grow in a stand following treatment or fire.

resistance to control — the relative difficulty of constructing and holding a control line as affected by resistance to line construction and fire behavior. (Also called Difficulty of Control.)

riparian habitat conservation areas — zones of specified widths along streams and watercourses and around lakes and wetlands which vary according to stream or feature type, as described in the Scientific Analysis Team (SAT) guidelines.

scorch-to-kill height — the maximum vertical height at which lethal scorching of foliage occurs. Below this height, all foliage is brown and dead; above it, live and green.

seral — relating to a series of ecological communities formed in ecological succession.

shade intolerant — species that require full, open sunlight on the forest floor to establish and grow (e.g., ponderosa pine).

silviculture — a branch of forestry dealing with the development and care of forests.

size class — a classification of forest stands based on the average diameter of trees in the stand.

snag — a dead standing tree.

stocking level — the number of regenerated trees per acre in a tree-harvest unit.

subsoiling — tilling of compacted soil with mechanized equipment to reduce soil compaction and consequent soil erosion. Performed after vegetation treatments using heavy equipment have been completed.

surface fire — A fire that burns surface litter, debris, and small vegetation.

thinning from below — the process of thinning a conifer stand by removing the smallest diameter trees and successively removing larger diameter trees until a canopy cover or basal area retention standard is met for the stand.

threshold of concern — describes the amount of disturbance when detrimental responses may begin to occur. Estimates of watershed “tolerance” to land use may be established based on basin-specific experience, comparison with similar basins, and modeling of watershed response. These indices of allowable levels of disturbance are called thresholds of concern (TOC). The tolerance of a watershed is used to prescribe mitigation measures to prevent detrimental responses. The threshold of concern does not represent an exact level of disturbance above which cumulative watershed effects will occur. Rather, it serves as a “yellow flag” indicator of increased risk of significant adverse cumulative effects occurring within a watershed. It is compared to the ERA score, and its units of measure are expressed as percent disturbed, and percent of TOC.

torching — the envelopment in flame of live or dead branches on a standing tree or group of trees.

torching — is fire burning a single or very small group of trees.

tree mortality — tree mortality is the probability that a live tree will die expressed in percent.

ultramafic — extremely basic; very low in silica and rich in iron and magnesium minerals.

underburning — a prescribed fire in fuels on the forest floor that is intended to generally remain on the forest floor without consuming significant portions of the forest canopy.

uneven-aged — a stand of trees of three or more distinct age classes, either inter-mixed or in small groups. Uneven-aged silvicultural systems are a planned sequence of treatments designed to maintain and regenerate a stand with three or more age classes.

vertical arrangement — is the arrangement of a fuels above the ground in their relationship to one another.

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