

Chapter 5. Consultation and Collaboration

5.1 Preparers and Contributors

The Forest Service consulted the following individuals; federal, state, and local agencies; and tribes during the development of this environmental impact statement (EIS):

5.1.1 Interdisciplinary Team Members

Name	Title	Education / Responsibility / Experience
Merri Carol Martens	Planner	Merri Carol has a B.S. degree in Forestry from West Virginia University. She has 15 years of experience in natural resource management with the U.S. Forest Service.
Chris Collins	Wildlife Biologist	Chris holds a B.S. degree in Wildlife Management from Humboldt State University. He has 13 years of experience in wildlife management and biological work with the U.S. Forest Service, the National Park Service, and the U.S. Fish and Wildlife Service. Chris is responsible for project coordination, planning, implementation, and monitoring for wildlife issues on the Mt. Hough Ranger District.
Michelle Coppoletta	Botanist	Michelle received a B.S. degree in Plant Biology from the University of California at Berkeley and a Master of Science in Ecology from the University of California at Davis. Prior to working with the Forest Service, Michelle was a rare plant botanist for the National Park Service at Point Reyes National Seashore where she worked on developing conservation and management plans for rare and sensitive plant species. She has also worked as a biological science technician for the USGS in the southern Sierra Nevada. She is currently the assistant botanist on the Mt. Hough Ranger District of the Plumas National Forest.
Cristina Weinberg	Archaeologist	Christina has a B.A. degree in Anthropology from Grinnel College. She has 19 years of experience in Cultural Resource Management with the Forest Service in California, Oregon, and South Dakota and Bureau of Land Management in Nevada. She is currently the Mt. Hough Ranger District Archaeologist.
Pete Hochrein	Transportation Engineer	Pete holds a B.S. degree in Forest Resource Management from the University of California, Berkeley, and a Master of Forestry degree in Forest Engineering from Oregon State University. He has worked for the Forest Service for 27 years and on the Plumas National Forest for the last 17 years as a Transportation/Logging Systems Group Leader, Engineering Projects Group Leader, and is currently the Forest Transportation Planner.

Name	Title	Education / Responsibility / Experience
Ryan Tompkins	Silviculturist	Ryan received a B.S. degree in Forest Management and a Master of Forestry degree from the University of California at Berkeley. Prior to working for the Forest Service, he worked for the California Department of Forestry in timber sale preparation, the University of California at Berkeley in forest growth and yield research, and the National Park Service at Golden Gate National Recreation Area and Point Reyes National Seashore in fire effects monitoring. He has worked for the Plumas National Forest as a forester and assistant silviculturist in timber sale preparation, contract administration, and vegetation management planning. He is currently the silviculturist on the Mt. Hough Ranger District of the Plumas National Forest.
Jason Moghaddas	Fire Ecologist	Jason has a B.S. degree in Resource Management and an M.S. degree in Environmental Science, Policy and Management from U.C. Berkeley. Jason is also licensed by the State of California as a Registered Professional Forester (#2774). He is currently the Fire Ecologist on the Mount Hough Ranger District of the Plumas National Forest. Prior to working with the Forest Service, Jason was a Staff Research Associate in the Fire Science Lab at the University of California. He has worked as a wildland fire fighter on a Type III wildland fire engine and on both Type I and Type II hand crews and has overseen prescribed burn operations. Jason is currently qualified as a Fire Fighter II on the Mt. Hough Ranger District and a member of the Taylorsville Volunteer Fire Department.
Will Gainok	Hydrologist	Will received a B.S. degree in Environmental Studies from Chico State University, California. He has been serving for about a year as an Hydrologist with the Mt. Hough Ranger District.
Emily Moghaddas	Soil Scientist	Emily holds a B.S. degree in Natural Resource Management and an M.S. degree in Ecosystem Science with an emphasis in forest soils, both from the University of California, Berkeley. She is currently pursuing a Doctor of Philosophy in Forest Science with an emphasis in forest soil and fire ecology from the University of California, Berkeley. Emily has worked at the Blodgett Forest Research Station, as a lead soils researcher for the Fire and Fire Surrogate Study of fuel treatments, and as a lecturer and instructor for Forest Measurements in the forestry program at the University of California at Berkeley. She is currently the Mt. Hough Ranger District Soil Scientist and is qualified as a standby fire fighter on a Type II handcrew, Burned Area Emergency Response team member and implementation team leader, and hazardous materials coordinator.
Erika Sharp	Assistant Resource Officer	Erika has a B.S. in Natural Resources from California State University at Humboldt and has worked for the Forest Service since 1998. She administers permits and operating plans for Specials Uses, Recreation, and Mining for the Mt. Hough Ranger District.
Kristina Hopkins	Forest Fisheries Biologist	Plumas National Forest.

5.1.2 Federal, State, and Local Agencies

5.1.2.1 U.S. Fish and Wildlife Service

Consultation on the Diamond Project began in early November 2005, when maps of the area were presented to U.S. Fish and Wildlife Service (USFWS) personnel followed by a general discussion of potential actions. The proposed action for the Diamond Project was sent to the USFWS in November 2005. On November 30, 2005, a field visit was conducted by USFWS and Forest Service biologists. The Diamond Vegetation Management Project Draft EIS and draft Diamond Biological Assessment / Biological Evaluation were sent to the USFWS on May 31, 2006.

The USFWS provided a list of threatened and endangered species entitled “Federal Endangered and Threatened Species That May Be Affected by Projects on the Plumas National Forest.”

5.1.2.2 California Department of Fish and Game

The California Department of Fish and Game unit biologist, Jim Lidberg, received the proposed action in November 2005. The Diamond Vegetation Management Project Draft EIS was sent on May 31, 2006.

5.1.3 Tribes

Formal consultation was initiated with these 5 federally recognized tribes: Greenville Indian Rancheria, Susanville Indian Rancheria, Estom Yumika Tribe of Enterprise Rancheria, Tyme Maidu Tribe of Berry Creek Rancheria, Concow Maidu Tribe of Mooretown Rancheria, Mechoopda Indian Tribe of Chico Rancheria.

5.2 Distribution of the Draft Environmental Impact Statement

This draft environmental impact statement has been distributed to individuals who specifically requested a copy of the document, those who submitted substantive comments during scoping, and other interested and affected parties. In addition, copies have been sent to the following federal agencies, federally recognized tribes, state and local governments, and organizations.

5.2.1 Federally Recognized Tribes

Concow Maidu Tribe of Mooretown Rancheria
Estom Yumeka Tribe of Enterprise Rancheria
Greenville Indian Rancheria
Mechoopda Indian Tribe of Chico
Susanville Indian Rancheria
Tyme Maidu Tribe of Berry Creek Rancheria

5.2.2 Federal, State, and Local Agencies

Advisory Council on Historic Preservation
California Department of Fish and Game
California Department of Food and Agriculture
California Department of Forestry and Fire Protection
Central Valley Regional Water Quality Board
Northern Sierra Air Quality Management District
Plumas and Sierra Counties Department of Agriculture
Plumas County Board of Supervisors
Plumas County Department of Public Works
U.S. Army Engineer Division
U.S. Coast Guard
U.S. Department of Agriculture – Animal and Plant Health Inspection Service
U.S. Department Of Agriculture – Forest Service Ecosystem Management Coordination
U.S. Department of Agriculture – National Agricultural Library
U.S. Department of Agriculture – Natural Resources Conservation Service
U.S. Department of Energy
U.S. Department of Interior
U.S. Environmental Protection Agency – San Francisco
U.S. Environmental Protection Agency – Washington, DC
U.S. Federal Aviation Administration
U.S. Federal Highway Administration – CA
U.S. Department of the Interior, Fish and Wildlife Service – Sacramento, CA
U.S. National Marine Fisheries Service
U.S. Forest Service Pacific Southwest Research Station – Sheauchu Chang

5.2.3 Organizations and Businesses

American Forest Resource Council—Bill Wickman
California Wilderness Coalition—Brent Schoradt
Center for Biological Diversity—Julia Jolley
Engels Mining Company—Norman Lamb
Feather River Resource Conservation District—Phillip Noia
John Muir Project of Earth Island—Chad Hanson
Matandy Land & Cattle Company
Quincy Library Group—Frank Stewart
Sierra Club—Patrick Gallagher

Sierra Nevada Forest Protection Campaign—Craig Thomas

Sierra Nevada Forest Protection Campaign—David Edelson

Sierra Pacific Industries—Thomas Downing

5.2.4 Individuals

Linda Blum

Tommy Brenzovich

Jim Brown

Bob Carter

Lorena Gorbet

Mr. and Mrs. John Hafen

Jim Hamblin

Pete Harrison

Jack Hereford

Lorie Jaimes

Alicia Knadler

Jon Little

Beth Rose Middleton

Hugh Moncur

Robert Olson

Douglas Poppelreiter

Betsy Schramel

John Shower

Jerry Spurlock

Arlo Sroing

Todd Swickard

Marc Trail

Ken Wemple

Bill Winchester

Michael Yost

Acronyms

BA	biological assessment
BACM	Best Available Control Measure
BE	biological evaluation
BMP	Best Management Practices
CAS	Chemical Abstract Service
CASPO	California Spotted Owl Interim Guidelines
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWHR	California Wildlife Habitat Relationships
dbh	diameter at breast height
DFPZ	Defensible Fuel Profile Zone
EHR	Erosion Hazard Rating
EIS	environmental impact statement
ERA	Equivalent Roded Area
FMA	Fire Management Analyst
FOFEM	First Order Fire Effects Model
FSH	Forest Service Handbook
FSSC	Forest Survey Site Class
HFQLG	Herger-Feinstein Quincy Library Group
ID	interdisciplinary
LD	lethal dose
LC ₅₀	lethal concentration
LD ₅₀	lethal dose
MIS	Management Indicator Species
mmbf	million board feet

NEPA	National Environmental Protection Act
NFFL	Northern Forests Fire Laboratory
NFMA	National Forest Management Act
NOAEL	No Observable Adverse Effects Level
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
NTMB	Neotropical migratory birds
OHV	off-highway vehicle
PAC	Protected Activity Center
PM	particulate matter
PSW	Pacific Southwest Research Station
RAWS	Remote Automated Weather Station
RFCC	fire regime and condition class
RHCA	Riparian Habitat Conservation Area (under HFQLG)
RMO	Riparian Management Objective
ROS	Recreational Opportunity Spectrum
SAT	Scientific Analysis Team
SMC	Sierra mixed conifer
SNFPA	Sierra Nevada Forest Plan Amendment
SOHA	Spotted Owl Habitat Area
TMDL	Total Maximum Daily Load
TOC	Threshold of Concern
USDA	United States Department of Agriculture
VQO	Visual Quality Objective

Glossary

Acid equivalent — when making herbicide rate recommendations for herbicides that are available as either salts or esters or both, it is a common practice to make the recommendations on the basis of pounds of the acid equivalent of the active ingredient per acre (lb ae /A). The acid equivalent of a salt or ester form of a herbicide is that portion of the molecule that represents the parent acid (herbicidal portion) form of the molecule (Wood et al. 1996).

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

adjuvant — a vegetable oil and silicone-based surfactant (such as Syl-tac® or an equivalent formulation) that is used to facilitate and enhance the spreading and penetrating properties of the herbicides.

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.

bald eagle habitat —

primary bald eagle habitat – land within a 0.25 mile radius of a nest tree.

secondary bald eagle habitat – land adjacent to the primary habitat that is used predominantly for roosting and perching and also to a lesser degree for foraging.

tertiary bald eagle habitat – areas used by eagles for foraging.

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 (CWHR) — a system developed jointly by Forest Service 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 base height — the height above the ground of the first canopy layer where the density of the crown mass within the layer is high enough to support vertical movement of a fire.

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.

chain — a chain is a measurement of distance. One chain = 66 feet.

closed road — a road from which mechanical equipment is excluded. A Forest Service road in closed status is a road that is still part of the Forest Service 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 base height — for a single tree, it is the height from an imaginary line drawn across the trunk to the bottom of the obvious lowest live foliage.

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 0.25 mile wide accessible to firefighters (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 event such as a fire, flood, or earthquake.

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

duff / duff layer — decaying leaves and branches on the forest floor.

ecotone — a transition or transitional zone between two adjacent ecological communities with some characteristics of each.

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

endemic — in the context of this environmental impact statement, refers to localized pockets within a small area, such as a pocket within a stand or a small stand.

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 percent 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 equivalent roaded area and compared to the Threshold of Concern.

Erosion Hazard Rating (ERA) — predicts the potential for sheet, rill, and gully erosion under existing conditions if vegetation and litter are removed.

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

fire frequency — the average number of years between fires.

Fire Regime Condition Class — a classification of the amount of departure from the natural fire regime. Assessing Fire Regime and Condition Class can help guide management objectives and set priorities for treatments.

Condition Class 1 — fire regimes are within historical range. Risk of losing key ecosystem components to wildfire is low. Species composition and structure are functioning within historical range. Potential wildfire intensities and severity are low to moderate.

Condition Class 2 — fire regimes are slightly altered from historical range. Risk of losing key ecosystem components to wildfire is moderate. This results in moderate changes in one or more of the following: fire size, fire intensity, and fire severity. In forestland, there is moderate encroachment of shade tolerant tree species. Potential wildfire intensities and severity are moderate to high.

Condition Class 3 — fire regimes are significantly altered from historical range. Risk of losing key ecosystem components to wildfire is high. This results in dramatic changes to one or more of the following: fire size, fire intensity, and fire severity. In forestland, there is high encroachment and establishment of shade tolerant tree species. Potential wildfire intensities and severity are moderate to extreme.

Forest Survey Site Class (FSSC) — an index of the productive potential of well-stocked stands. FSSC reflects the mean annual increment of a stand at the point of culmination, and is based on normal yield tables as follows: FSSC 5: 50–84 cubic feet per acre per year; FSSC 6: 20–49 cubic feet per acre per year; FSSC 7: less than 20 cubic feet per acre per year.

fire type — a description of how a fire burns, such as on the forest floor (surface) or in the tree crowns.

flame length — the length of flame measured in feet. Increased flame lengths increase resistance to control and likelihood of torching events and crown fires.

Forest Survey Site Class — a measure of site productivity in cubic feet of wood per acre per year.

Fragmentation / stand fragmentation — occurs when a large patch of habitat is broken down into many smaller patches of open habitat, resulting in a loss in the amount of quality forested habitat.

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

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

fuel loading — the weight of fuel (vegetative matter both living and dead) present at a given site; usually expressed in tons per acre. This value generally refers to the fuel that would be available for consumption by fire.

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.

guild — used to group plant species that use similar resources in a similar way. Plant species in the same guild are found in similar habitat types and have similar environmental requirements.

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

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

Hazard Quotient — the ratio of the estimated level of exposure to the reference dose or some other index of acceptable exposure.

Home Range Core Area — mapped foraging area.

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

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

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

Interdisciplinary Team (ID Team) — the team of Forest Service resource specialists involved in project planning and analysis. The ID Team members for the Diamond Project are listed in at the beginning of this chapter.

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

landings — forested openings that are cleared of vegetation, leveled, and graded and 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.

LC₅₀ (lethal concentration) — a calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50 percent of a defined experimental animal population.

LD₅₀ (lethal dose) — the dose of a chemical calculated to cause death in 50 percent of a defined experimental animal population over an observation period, typically 14 days.

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.

matrix — the untreated area between group selections within a stand or treatment unit.

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.

multilayer — 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 / mycorrhizae (pl.) — the mutually beneficial association of a fungus and the roots of a plant, such as a conifer or an orchid, in which the plant's mineral absorption is enhanced and the fungus obtains nutrients.

natural fire regime — a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but it also includes the influence of aboriginal burning (Agree 1993; Brown 1995).

No Observed Adverse Effect Level (NOAEL) — the dose of a chemical at which no statistically or biologically significant increases in frequency or severity of adverse effects were observed between the exposed population and its appropriate control. Effects may be produced at this dose, but they are not considered to be adverse.

No Observed Effect Concentration (NOEC) — the highest concentration or amount of chemical in the test system that causes no observable biological effect to the target organism.

No Observed Effect Level (NOEL) — the exposure level at which there is no statistically or biologically significant differences in the frequency or severity of any effect between the exposed or control population.

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

Off Base and Deferred Lands — federal lands identified in the Herger-Feinstein Quincy Library Group (HFQLG) Forest Recovery 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.

particulate matter — the general term used for a mixture of solid particles and liquid droplets found in the air. Some particles are large enough to be seen as dust or dirt. Others are so small they can be detected only with an electron microscope. PM_{2.5} describes the “fine” particles that are less than or equal to 2.5 μm in diameter. “Coarse fraction” particles are greater than 2.5 μm, but less than or equal to 10 μm in diameter.

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

phylogenetic — the development of a species, genus, or group as contrasted with the development of an individual.

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

quadratic mean diameter — the upper story diameter of a tree of mean basal area within dominant or codominant positions in the stand. In other words, instead of being an arithmetic average of tree diameters, it is a weighted average based on the basal area of each tree in the upper story within the stand.

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.

release — in the context of this environmental impact statement, giving large, old pines more space to grow—to “release” them from crowded conditions.

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.”

RfD, reference dose — a daily dose which is not anticipated to cause any adverse effects in a human population over a lifetime of exposure. These values are derived by the U.S. Environmental Protection Agency.

Riparian Habitat Conservation Areas — zones of specified widths along streams and watercourses and around lakes and wetlands that vary according to stream or feature type, as described in the Scientific Analysis Team guidelines.

sanitation — tree removal or modification operations designed to reduce damage caused by forest pests and to prevent their spread.

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.

serpentine substrate — a dull green or brownish mineral consisting of hydrous magnesium silicate. It is often used as an ornamental stone.

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

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

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 — performed after vegetation treatments, wherein mechanized equipment is used to till compacted soil to reduce soil compaction and consequent soil erosion.

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

surfactant — an agent, such as a detergent, that reduces the surface tension of liquids so that the liquid spreads out, rather than collecting in droplets.

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. 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 equivalent roaded area score, and its units of measure are expressed as percent disturbed and percent of Threshold of Concern.

torching — (1) the envelopment in flame of live or dead branches on a standing tree or group of trees; (2) fire burning a single or very small group of trees.

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.

whole-tree removal — the whole-tree harvest method is where trees are felled at the stump and skidded to the landing for de-limbing, bucking, and processing. Large trees may be bucked in the treatment unit to facilitate removal to the landing and reduce skidding damage to residual trees. Most activity slash would be removed to the landing.

Wildland Urban Interface — the area, or zone, where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. It generally extends out for 1.5 miles from the edge of developed private land into the wildland.

References

- Adams, D. 2004. Annosus Root Disease in California. Tree Notes; California Department of Forestry and Fire Protection. 6.
- AEHA. 1998. Accessed May 2006. Safe alternatives to household products. Allergy and Environmental Health Association, Ottawa Branch website. <http://www.aeha.ca/help-with.htm>.
- Agee, James K., Bernie Bahro, Mark A. Finney, Phillip N. Omi, David B. Sapsis, Carl N. Skinner, Jan W. van Wagendonk, and Phillip C. Weatherspoon. 2000. The use of shaded fuel breaks in landscape fire management. *Forest Ecology and Management* 127:55-66.
- Agee, James K. 2002. The fallacy of passive management: managing for fire safe forest reserves. *Conservation in Practice*, Vol 3, No 1. Society for Conservation Biology, 6p.
- Agee, James K. and Carl N. Skinner. 2005. Basic principles of forest fuel reduction treatments. *Forest Ecology and Management* 211: 83-96.
- Aho, P.E., G. Fiddler, and M. Srago. 1983. Logging damage in thinned, young-growth true fir stands in California and recommendations for prevention. USDA Forest Service, Pacific Northwest Forest and Range Experiment Station. PNW-304, January 198. 9 pp.
- Ammon, Vernon and Mukund V. Patel. 2000. Annosum Root Rot. Ornamental and Tree Diseases. Plant Disease Dispatch Sheets. M-416 http://msucares.com/lawn/tree_diseases/416annosum.html.
- Anderson, Kat. 2005. *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources*. University of California Press. 504p.
- Anderson, Hal E., 1974. Forest fire retardant: Transmission through a tree crown. Research paper INT-153. USDA Forest Service, Intermountain Forest and Range Experiment Station, Ogden, UT. 20p.
- Andrews, Patricia L. and Richard C. Rothermel. 1982. Charts for interpreting wildland fire behavior characteristics. PMS-435-2, NFES#0274. National Wildfire Coordinating Group, Washington DC. 21p.
- Annesi, T., G. Curcio, L.D'Amico, and E. Motta. 2005. Biological control of *Heterobasidion annosum* on *Pinus pinea* by *Phlebiopsis gigantea*. *Forest Pathology*. 35(2): 127-134.
- Ansley, J.S. and J.J. Battles. 1998. Forest composition, structure, and change in an old-growth mixed conifer forest in the northern Sierra Nevada. *Journal Torrey Botanical Society* 125: 297-308.
- Anthony, R., G. Knight, G.T. Allen, B.R. McClelland, and J.I. Hodgens. 1982. Habitat use by nesting and roosting bald eagle in the Pacific Northwest. *Transcripts, North American Wildlife Natural Resource Conference* 47:332-342.
- Arno, Stephen. F. and S. Allison-Bunnell. 2002. *Flames in our forest: disaster or renewal*. Island Press, Washington, DC. 227pp.
- Bais, Harsh, R. Vepachedu, S. Gilroy, R. Callaway, and J. Vivanco. 2003. Allelopathy and Exotic Plant Invasion: From Molecules and Genes to Species Interactions. *Science* Vol. 301:1377-1380. 5 September 2003.
- Bakke, D. 2002. Analysis of Issues Surrounding the Use of Spray Adjuvants With Herbicides. USDA Forest Service, Pacific Southwest Region, unpublished document.

- Barr, C.B. 1991. The distribution, habitat and status of the Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*. Sacramento Field Office, USFWS in: Riparian Associated Species: habitat requirements summary and habitat objectives, unpublished document, July 30, 1993, San Francisco, CA.
- Basgall, Mark E. 2003. *Some Reflections on Martis*. Presentation at the Society for California Archaeology, 2003 Annual Meeting, Sacramento.
- Bayer, D.E. 2000. *Cirsium arvense* (L.) Scop. In *Invasive Plants of California's Wildlands*. Eds. C C. Bossard, J.M. Randall, and M.C. Hoshovsky. University of California Press, Berkeley and Los Angeles, CA. pp. 106-111.
- Beaty, Matthew R. and Alan H. Taylor. 2001. Spatial and temporal variation of fire regimes in a mixed conifer forest landscape, Southern Cascades, CA, USA. *Journal of Biogeography*, 28:955-966.
- Beche, Leah A., Scott L. Stephens, and Vincent H. Resh. 2005. Effects of prescribed fire on a Sierra Nevada (California) stream and its riparian zone. *Forest Ecology and Management* 218:37-59.
- Beck, K.G. 1994. How do weeds affect us all? Reprinted with permission from: 1994 Leafy Spurge Symposium, Bozeman, MT. July 26-29. Accessed online at: http://www.lib.ndsu.nodak.edu/research/subjects/ag/spurge_wl/spurge/pdffiles/SYMPOSIU/94/11beck94.pdf.
- Beckman, Sid. 2001. Assessment of the effects of multiple fuel treatments on fire spread and timber stand damage: Stream Fire, Plumas N.F., July 26th, 2001. Fire Behavior Analyst, California Interagency Incident Management Team 5.
- Beesley, David. 1996. Reconstructing the Landscape: An Environmental History. In: Sierra Nevada Ecosystem Project: Final report to congress, Vol. II, Assessments and scientific basis for management options. University of California Davis, Center for Water and Wildland Resources. pp. 2-24.
- Belsher-Howe, J. 2004. Biological Evaluation of Potential Effects of the Meadow Valley Project on Threatened, Endangered, and Sensitive Plant Species. Prepared for USDA Forest Service, Mt. Hough Ranger District, Plumas National Forest.
2005. Biological Evaluation of Potential Effects of the Empire Management Project on Threatened, Endangered, and Sensitive Plant Species. Prepared for USDA Forest Service, Mt. Hough Ranger District, Plumas National Forest. August 5, 2005.
- Bisson, H. 1999. Statement of the United States Department of the Interior Concerning Noxious Weeds and Invasive Plants. June 24, 1999. Website <http://www.blm.gov/nhp/news/legislative/pages/1999/te990624.htm>
- Blackwell, J.A. 2004. Conifer Forest Density Management for Multiple Objectives. In Letter to Forest Supervisors and Directors, July 14, 2004 File code 2470/5150/3400.
- Blakesley, J.A., B.R. Noon, and D.W.H. Shaw. 2001. Demography of the California spotted owl in northeastern California. *Condor* 103(4):667-677.
- Blakesley, J.A., M.E. Seamans, M.M. Conner, A.B. Franklin, G.C. White, R.J. Gutierrez, J.E. Hines, J.D. Nichols, T.E. Munton, W.H. Shaw, J.J. Keane, G.N. Steger, B.R. Noon, T.L. McDonald, and S. Britting. 2006. Demography of the California spotted owl: Draft report to the U.S. Fish and Wildlife Service on the January 2006 meta-analysis. Pacific Southwest Research Station, USDA Forest Service, Berkeley, CA.

- Blakesley, J.A. 2003. Ecology of California spotted owl: breeding dispersal and associations with forest stand characteristics in northeastern California. Ph.D. Dissertation, Colorado State University, Fort Collins, Colorado. 60 pp.
- Bond, W. and R. Turner. 2004. The biology of non-chemical control of Creeping Thistle (*Cirsium arvense*). HDRA, Ryton Organic Gardens, Coventry, UK. Accessed at <http://www.organicweeds.org.uk>.
- Bossard, Carla C. 2000. *Cytisus scoparius* (L.) Link. In Invasive Plants of California's Wildlands. Eds. Bossard, C.C., J.M. Randall, and M.C. Hoshovsky. University of California Press, Berkeley and Los Angeles, California. pp. 145-150.
- Bossard, Carla C., John M. Randall, and Marc C. Hoshovsky, eds. 2000. Invasive plants of California's wildlands. University of California Press, Berkeley.
- Buck, R. and G. Clifton. 2001. Vascular Plant Reconnaissance Report for the Wild Defensible Fuel Profile Zone. Unpublished manuscript available from the Mt. Hough Ranger District, 39696 Hwy. 70, Quincy, CA 95971. 109 pp.
- Buck, R. 2005. Botanical Survey of the Babcock Survey Area, Plumas National Forest, California. Prepared for the Mt. Hough Ranger District, Plumas National Forest. Ecosystems West Consulting Group. Santa Cruz, CA, November 2005.
- Buehler, David A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). No. 506 in The Birds of North America (Poole, A and F. Gill, editors). The Academy of Natural Science, Philadelphia, and The American Ornithologists' Union, Washington, DC.
- Butler, B.W., J.M. Forthofer, M.A. Finney, L.S. Bradshaw, R. Stratton. 2004. High resolution wind direction and speed information for support of fire operations. In: Aguirre-Bravo, Celedonio, et. al. Eds. 2004. Monitoring Science and Technology Symposium: Unifying Knowledge for Sustainability in the Western Hemisphere; 2004 September 20-24; Denver, CO. Proceedings RMRS-P-000. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- California Department of Fish and Game. 2002. Final Environmental Impact Statement, Resident Small Game Mammal Hunting, State of California.
- California Department of Food and Agriculture. 2004. ENCycLOWEEDIA: Notes on Identification, Biology, and Management of Plants Defined as Noxious Weeds by California Law. http://www.cdffa.ca.gov/phpps/ipc/encycloweedia/encycloweedia_hp.htm. Accessed December 2004.
2006. Noxious Weed Pest Ratings. Accessed at http://www.cdffa.ca.gov/phpps/ipc/encycloweedia/pdfs/noxiousweed_ratings.pdf. January 2006.
- California Department of Pesticide Regulation (CDPR) 2006, Annual Pesticide Use Reports for Lassen and Plumas counties between 2001, 2002, and 2003, accessed April 2006.
- California Native Plant Society. 2006. Inventory of Rare and Endangered Plants, v7-06a 1-24-06. California Native Plant Society. Sacramento, CA. Accessed at <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>. Accessed: March 17, 2006.
- California Natural Diversity Database 2003. RareFind Version 3.0.5. California Department of Fish and Game. Accessed March 2005.
- Call, D.R. 1990. Home range and habitat use by California spotted owls in the Central Sierra Nevada. Masters Thesis, Humboldt State University, CA.

- Callenberger, Barry and Zeke Lunder. 2006. Plumas County Hazardous Fuel Assessment Strategy. January 20, 2006. 58 pp.
- Campbell, R.B. Jr, and D.L. Bartos. 2001. Aspen ecosystems: objectives for sustaining biodiversity. Pages 299–307 in W.D. Shepperd, D. Binkley, D.L. Bartos, T.J. Thomas, and L.G. Eskew, compilers. Sustaining aspen in western landscapes: Symposium Proceedings. USDA Forest Service Rocky Mountain Research Station, RMRS-18, Grand Junction, CO.
- Carpenter, Katherine. 2003. Antelope-Border DFPZ Bitterbrush (*Purshia tridentata*) Monitoring. July 2003.
- Clifton, G. 2005. Plumas County and Plumas National Forest Flora. Draft. Unpublished.
- Cluck, D. 2005. Evaluation of proposed prescribed fire and Western pine beetle activity in the South Lake Almanor Area. USDA Forest Service Forest Health Protection, Pacific Southwest Region: FHP Report NE05-09.
- Collins, C.M. and T. Hopkins. 2006. Diamond Fuel Treatment, Group Selection, and Area Thinning Project. Biological Assessment/Biological Evaluation Terrestrial & Aquatic Wildlife. 137 pp.
- Colson, DeVer. 1956. Meteorological problems associated with mass fires. Fire Control Notes (17)1: 9-11.
- Coppoletta, M. 2006. Mud Lake Research Natural Area Management Plan, USDA Forest Service Region 5, Mt. Hough Ranger District, Plumas National Forest, February 1, 2006.
- Coppoletta, M. and J. Belsher-Howe. 2006. Diamond Vegetation Management Project: Biological Evaluation of Potential Effects to Threatened, Endangered, and Sensitive Plant Species. USDA Forest Service, Plumas National Forest, Mt. Hough Ranger District.
- Cramer, Owen P. 1954. Recognizing weather conditions that affect forest fire behavior. Fire Control Notes (15)2: 1-6.
- Crawford, Kristina. 2005 In the Sheep: Aspen Carvings as Indicators of Land Capacity and Use. *Society for California Archaeology Newsletter* 39(1):26-29.
- Crosby, John S. and Craig C. Chandler. 1966. Get the most from your wind speed observation. Fire Control Notes 27(4) 12-13.
- Curtis, R.O. 1970. Stand density measures: an interpretation. Forest Science 16:403-414.
- DeStefano, S., S.K. Daw, S.T. Desimone, and E.C. Meslow. 1994. Density and productivity of northern goshawks: Implications for monitoring and management. *Studies in Avian Biology* 16:88-91.
- Dillingham, C.P. 2005. Herger-Feinstein Quincy Library Group Botany Monitoring Report, 2005. Vegetation Management Solutions, Oroville, CA. November 22, 2005.
- Dillingham, C.P. 2006. Nonvascular Botanical Field Reconnaissance Report, Plumas National Forest, Mt. Hough Ranger District, Diamond Project Area. March 6, 2006.
- Dittes, J. and J. Guardino. 2005. Botanical Resource Investigation Conducted for the Rattlesnake Survey Unit of the Diamond Defensible Fuels Profile Zone and Group Selection Project, Plumas National Forest, Mt. Hough Ranger District, Plumas County, California. Dittes and Guardino Consulting, Los Molinos, CA. December 15.

- Dixon, Roland B. 1905. Maidu Myths. *Bulletin of the American Museum of Natural History*. NY. 17 (3)119-346.
- Dixon, Roland B. 1905. The Northern Maidu. *Bulletin of the American Museum of Natural History* 17(3):119-346. New York.
- Dixon, G. 1994. Western Sierra Nevada Prognosis Geographic Variant of the Forest Vegetation Simulator. WO-TM Service Center, USDA-Forest Service Fort Collins, Colorado February 1994.
- Dolph, K.L., S.R. Mori, and W.W. Oliver. 1995. Long-term response of old-growth stands to varying levels of partial cutting in the eastside pine type. *Western journal of applied forestry*. Vol. 10, No. 3. p 101-108.
- Donald, W.W. 1990. Management and control of Canada thistle (*Cirsium arvense*) *Reviews of Weed Science* 5: 193-250
1992. Herbicidal control of *Cirsium arvense* (L.) Scop. roots and shoots in no-till spring wheat (*Triticum aestivum* L.) *Weed Research* 32: 259-266.
- Dost, F.N., L. Norris. and C. Glassman. 1996. Assessment of Human Health and Environmental Risk Associated with use of Borax for Cut Stump Treatment. Prepared for USDA-Forest Service, Regions 5 and 6. Borax Draft July 1, 1996.
- Drew, T.J. and J.W. Flewelling. 1977. Some Japanese theories of yield-density relationships and their application to Monterey pine plantations. *Forest Science* 23:517-534.
- Drew, T.J. and J.W. Flewelling. 1979. Stand density management: an alternative approach and its application to Douglas-fir plantations. *Forest Science* 25:518-532.
- Edmonds, R.L., J.K. Agee. and R.L. Gara. 2000. *Forest health and protection*. McGraw Hill. Boston, MA. 630 p.
- Elsasser, A.B. 1960. *The Archaeology of the Sierra Nevada in California and Nevada*. University of California Archaeological Survey Reports 51. Berkeley.
- Elsasser, A.B. and W.A. Gortner. 1991. The Martis Complex Revisited. *North American Archaeologist* 12:(4)361-376.
- Elston, Robert G. 1971. *A Contribution to Washo Archaeology*. Nevada Archaeological Survey Research Papers 2. Reno.
- Elston, Robert G., Jonathan O. Davis, and G. Townsend. 1977. *The Archaeology of the Tahoe Reach of the Truckee River*. Submitted to the Tahoe-Truckee Sanitation Agency.
- ESSA Technologies Ltd. 2005. *Vegetation Dynamics Development Tool*. Version 5.1 Prepared by ESSA Technologies Ltd., Vancouver, BC.
- Fernandes, Paulo M. and Herminio Botelho. 2003. A review of prescribed burning effectiveness in hazard reduction. *International Journal of Wildland Fire*: (12) 117-228.
- Ferrell, George E. 1996. *The Influence of Insect Pests and Pathogens on Sierra Forests*. In: *Sierra Nevada Ecosystem Project: Final report to congress, Vol. II, Assessments and scientific basis for management options*. University of California Davis, Center for Water and Wildland Resources. pp. 1177-1191.

- Fiddler, G.O., et al. 1989. Thinning decrease mortality and increase growth of ponderosa pine in northeastern California. Res. Paper PSW-194. Berkeley, CA: Pacific Southwest Forest and Range Experiment Station, USDA Forest Service.
- Filip, G.M. and D.J. Morrison. 1998. Chapter 23 - North America. In, *Heterobasidion annosum: Biology, Ecology, Impact, and Control*. Editors: S. Woodward, J. Stenlid, R. Karjalainen, and A. Huttermann. Pg. 405-427. CAB International.
- Finney, Mark A., Sue Brittain, and Rob Seli. 2005. FLAMMAP version 3.0 Beta 10. Missoula Fire Sciences Lab, Rocky Mountain Research Station.
- Foote, Louise. 1991. Archaeological Reconnaissance of the Fred Timber Sale, the Ruby Timber Sale, and the Superior Helicopter Timber Sale, ARR #05-11-53 (FY'88), Plumas County, California. Report originally prepared by Frances and Charles Welling for the Greenville Ranger District, Plumas National Forest in November 1988. Revised and completed by Louise Foote July 1991.
- Foster, Daniel G. 1999. Abstract-Representational Petroglyphs of the Northern Sierra Nevada, California. Electronic document <http://www.indiana.edu/~e472/cdf/rockart/sierra/>, accessed December 9, 2005.
- Foster, Daniel G., John Betts, and Linda C. Sandelin. 2002. A Link Between Style 7 Rock Art and the Martis Complex in the Northern Sierra Nevada. *Proceedings of the Society for California Archaeology* 15:66-93.
- Forthofer, Jason M., B.W. Butler, K.S. Shannon, M.A. Finney, L.S. Bradshaw. 2003. Predicting surface winds in complex terrain for use in fire growth models. *Proceedings, 5th Symposium on Fire and Forest Meteorology 2nd International Wildland Fire Ecology and Fire Management Congress*. Orlando, FL. November.
- Franklin, A.B., D.R. Anderson, R.J. Gutierrez, K.P. Burnham. 2000. Climate, habitat quality and fitness in northern spotted owl populations in northwestern California. *Ecol. Monogr.* 70, 539-590.
- Franklin, A.B., R.J. Gutierrez, J.D. Nichols, M.E. Seamans, G.C. White, G.S. Zimmerman, J.E. Hines, T.E. Munton, W.S. LaHaye, J.A. Blakesly, G.N. Steger, B.R. Noon, D.W.H. Shaw, J.J. Keane, T.L. McDonald, and S. Britting. 2004. Population dynamics of the California spotted owl (*Strix occidentalis occidentalis*): a meta-analysis. *Ornithological Monographs* 54. 54 pp.
- Froelich, R.C., C.S. Hodges, Jr., S.S. Sackett. 1978. Prescribed burning reduces severity of annosus root rot in the South. *Forest Science*. 24(1): 93-100.
- Garcia and Associates 2001 Botanical Report for the Moonlight Project, Plumas National Forest. Prepared for the Mt Hough Ranger District, Plumas National Forest. Garcia and Associates, San Anselmo, CA. October 10, 2001.
- Goheen, D.J., W.J. Otrosina. 1998. Characteristics and consequences of root diseases in forests of Western North America. In: Frankel, Susan J., tech. coord. User's guide to the western root disease model, version 3.0. Gen. Tech. Rep. PSW-GTR 165. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Station: 3-8.
- Gomez, A., R.F. Powers, M.J. Singer, and W.R. Horwath. 2002. Soil compaction effects on growth of young ponderosa pine following litter removal in California's Sierra Nevada. *Soil Science Society of America Journal*. 66: 1334-1343.
- Gould, G.I. 2006. Biologist, California Department of Fish and Game. Personal Communication. Graham, D.A. 1971. Evaluation of borax for prevention of annosus root rot in California. *Plant Disease Reporter*. 55(6) June 1971: 490-494.

- Graham, Russell T., Sarah McCaffrey, and Theresa B Jain. 2004. Science basis for changing forest structure to modify wildfire behavior and severity. General Technical Report, RMRS-GTR-120. USDA Forest Service, Rocky Mountain Research Station. 43 pp.
- Guarin, Alejandro and Alan H. Taylor. 2005. In press: Drought triggered mortality in mixed conifer forests in Yosemite National Park, California, USA. *Forest Ecology and Management*.
- Hall, P.A. 1984. Characterization of nesting habitat of goshawks (*Accipiter gentiles*) in Northwestern California. M.S. Thesis, California State University, Humboldt. 70 pp.
- Hanson, L. 2005. Interim Management Prescriptions for Sensitive and Special Interest Plants on the Plumas National Forest, internal document.
- Hanson, L. 2006. Plumas National Forest Sensitive and Special Interest Plant Species List. Updated January 18, 2006.
- Heizer, Robert F., and A.B. Elsasser. 1953. Some Archaeological Sites and Cultures of the Central Sierra Nevada. University of California Archaeological Survey Reports 12. Berkeley.
- Helms, J.A., 1998. The dictionary of forestry. Bethesda, MD: Society of American Foresters.
- Helms, J.A., and J.C. Tappeiner. 1996. Silviculture in the Sierra. Status of the Sierra Nevada. II. Assessments and Scientific Basis for Management Options. Davis, University of California Wildland Resources Center Report No. 37.
- Hood, Larry D. 1999. A defensible fuel profile zone gets put to the test. Memo: Larry Hood, Team Member, Adaptive Management Services, Rapid Response Fire Planning and Analysis Team, 3 p.
- Hood, Sharon M, Sheri L, Smith, and Daniel R. Cluck. In review. Delayed Conifer Tree Mortality Following Fire in California. 2005 National Silviculture Workshop: Restoring Fire Adapted Forested Ecosystems, 6–10 June 2005, Tahoe City, CA.
- Hunter, W.C., M.E. Cartes, D.N. Pashley, and K. Barker. 1993. "The Partners In Flight Species Prioritization Scheme." In Status and Management of Neotropical Migratory Birds, edited by D.M Finch and P.W. Stangel. Proceedings of Estes Park Workshop, Sep 21-25. USDA Forest Service, Rocky Mountain Forest & Range Experimental Station, Ft. Collins, CO (GTR RM-229).
- Hunter, J.E., R.J. Gutierrez, and A.B. Franklin. 1995. Habitat configuration around Spotted Owl sites in northwestern California. *Condor* 97:684-693.
- Information Ventures. 1995. Borax pesticide fact sheet. Prepared for the U.S. Department of Agriculture, Forest Service. <http://infoventures.com/e-hlth/pesticide/borax.html> accessed April 1, 2005.
- Jack, S.B. and J.N. Long. 1996. Linkages between silviculture and ecology: an analysis of density management diagrams. *Forest Ecology and Management* 86 (1996): 205-220.
- James, R.L., F.W. Cobb, Jr 1984. Spore deposition by *Heterobasidion annosum* in forests of California. *Plant Disease Reporter* 68 (3):246-248.
- Janeway, L. 1998. Plant Occurrence Discovery Record for *Lomatium roseanum* 11-03. Internal document, Mt. Hough Ranger District, Plumas National Forest. October 29, 1998. 2 pp.
- Karron, J.D. 1987. The pollination ecology of co-occurring geographically restricted and widespread species of *Astragalus* (Fabaceae). *Biological Conservation* 39: 179-193.

- Keane, J.J. 1997. Ecology of the northern goshawk in the Sierra Nevada, California. Unpublished Ph.D. Dissertation.
- Keeler-Wolf, T. 1985. An ecological survey of the proposed Mud Lake-Wheeler Peak Baker Cypress Research Natural Area, Plumas National Forest, Plumas County, California. USDA Forest Service. 58 pp, plus appendices.
- Keeler-Wolf, T. 1989. Establishment Record for the Mud Lake Research Natural Area, Plumas National Forest, Plumas County, California. USDA Forest Service. 25 pp., plus appendices.
- Kliejunas, J. 1989. Borax Stump Treatment for Control of Annosus Root Disease in the Eastside Pine Type Forests of Northeastern California. USDA Forest Service, Pacific Southwest Region, GTR-165.
- Kliejunas, John. 1991. An Evaluation of the Verdi Sale, Sierraville Ranger District, Tahoe National Forest, For Potential Impact of Annosus Root Disease, Report Number R91-05, USDA Forest Service, Pacific Southwest Region.
- Kliejunas, J. and B. Woodruff. 2004. Pine Stump Diameter and Sporangium Treatment in Eastside Pine stands. Forest Health Protection, Pacific Southwest Region. Vallejo, CA. Report No. R04-01.
- Korb, Julie E., N. Johnson, and W. Covington. 2004. Slash Pile Burning Effects on Soil Biotic and Chemical Properties and Plant Establishment: Recommendations for Amelioration. Restoration Ecology Vol. 12 No. 1, pp.52-62. March.
- Kowta, Makoto. 1984. Further Thoughts on Maidu Prehistory: The View from Chico, 1984. Paper presented at the 18th Annual Meeting of the Society for California Archaeology, Salinas.
1988. The Archaeology and Prehistory of Butte and Plumas Counties, California: An Introduction and Interpretive Model. Report on file at the Northeast Information Center, California State University, Chico.
- Kolka, R.K. and M.F. Smidt. 2004. Effects of forest road amelioration techniques on soil bulk density, surface runoff, sediment transport, soil moisture and seedling growth. Forest Ecology and Management 202: 313-323.
- Kroeber, Alfred J. 1925. Handbook of the Indians of California. Dover Publications, Inc., New York.
- Krueger-Mangold, J., R.L. Sheley, and B.D. Roos. 2002. Maintaining plant community diversity in a waterfowl production area by controlling Canada thistle (*Cirsium arvense*) using glyphosate. Weed Technology 16: 457-463.
- Kusener, Karen. 2005. Diamond Add-on Survey. USDA Forest Service, Plumas National Forest, Mt. Hough Ranger District. Report #02-40-2005.
- Landram, Michael. 2004. Oversight and Functional Assistance Trip Report: Density Management on the Plumas National Forest. May 18–20, 2004. Region 5 Forest Vegetation Program Manager, USDA Forest Service.
- Lehman, R.N. 1979. A survey of selected habitat features of 95 Bald eagle nesting California. California Department of Fish and Game, Wildlife Management Branch. Administrative Report No. 79-1, Sacramento, CA. 23 pp.
- Lehman, R.N., D.E. Craigie, P.L. Collins, and R.S. Griffen. 1980. An analysis of habitat requirements and site selection criteria for nesting bald eagles in California. Report by Wilderness Research Institute, Arcata, CA., for U.S. Forest Service, Region 5. San Francisco, CA. 106 pp.

- Leiberg, John B. Forest conditions in the Northern Sierra Nevada, California. USGS Professional Papers, No 8 U.S. Geological Survey, WA, 194 pp., plus maps.
- Lidberg, Jim: California Department of Fish And Game Unit Biologist, personal communication, 2006.
- Long, James N. 1985. A Practical Approach to Density Management. The Forestry Chronicle. February 1985.
- Long, J.N. and T.W. Daniel. 1990. Assessment of Growing Stock in Uneven-Aged Stands. Western Journal of Applied Forestry. Vol. 5, No. 3, July 1990.
- Long, J.N., T.J. Dean, and S.D. Roberts. 2004. Linkages between silviculture and ecology: examination of several important conceptual models. Forest Ecology and Management. Vol. 200, pp. 249–261.
- Long, J.N and J. D. Shaw. 2005. A Density Management Diagram for Even-aged Ponderosa Pine Stands. Western Journal of Applied Forestry. Vol. 20, No. 3, 2005.
- Long, James N. 1996. A Technique for the Control of Stocking in Two-Storied Stands. Western Journal of Applied Forestry. Vol. 11, No. 2, April 1996.
- Lubin, D. and S. Gross. 2002. Botanical Report of Units 1a, 2a, 3a, 5a, 6a, 7a in the Wild Defensible Fuel Profile Zone, Plumas National Forest. Mt. Hough Ranger District.
- Lyon, L.J. 1979. Habitat Effectiveness for Elk as Influenced By Roads and Cover. Journal of Forestry. 77:No 10, October 1979; 658-660.
- Lyon, L.J. 1983. Road Density models describing habitat effectiveness for elk. Journal of Forestry. 81:592-595.
- Macomber, Scott A. and Curtis E. Woodcock. 1994. Mapping and Monitoring Conifer Mortality Using Remote Sensing in the Lake Tahoe Basin. Remote sensing of environment 50:255-266.
- MacDonald, L.H. 2000. Evaluating and managing cumulative effects: process and constraints. Environmental Management Vol. 26, No. 3, pp. 299-315.
- Madrid, M.J. 1996. Forest Supervisor with U.S. Forest Service, Plumas National Forest. Memo to Rangers and staff. Species Lists for Sensitive and Special Interest Plants and Interim Management Prescriptions for the Forest. April 5, 1996.
- Main ,W.A., D.M. Paananen, R.E. Burgan. 1990. Fire Family Plus. USDA Forest Service Gen. Tech. Rep., NC-138. USDA Forest Service, North Central Forest Experiment Station, St. Paul, MN.
- Maur, T., M.J. Russo, and M. Evans. 1987. Element Stewardship Abstract for *Centaurea maculosa* (Spotted Knapweed). Nature Conservancy, Arlington, VA.
- Mayer, Kenneth E. and Laudenslayer, William F. Jr. 1988. A guide to wildlife habitats of California. California Department of Forestry and Fire Protection, Sacramento, CA. 166 pp.
- McIver, J.D., P.W. Adams, J.A. Doyal, E.S. Drews, B.S. Hartsough, L.D. Kellog, C.G. Niwa, R. Ottmar, R. Peck, M. Taratoot, T. Torgeson, and A. Youngblood. 2003. Environmental Effects and Economics of Mechanical Logging for Fuel Reduction in Northeast Oregon Mixed-conifer stands. Western Journal of Applied Forestry. Volume 18, April 2003. pp. 133–142.

- McKelvey, K.S. and J.D. Johnston. 1992. Historical perspectives on forests of the Sierra Nevada and the Transverse Ranges of southern California: forests at the turn of the century. In: The California spotted owl: a technical assessment of its current status coordinated by J. Verner, K.S. McKelvey, B.R. Noon, R.J. Gutierrez, G.I. Gould Jr., and T.W. Beck. USDA Forest Service Gen. Tech. Rep. GTR-PSW-133. Albany, CA.
- McKelvey, K.S., C.N. Skinner, C. Chang, D. Et-man, S.J. Husari, D.J. Parsons., J.W. van Wagtendonk, and C.P. Weatherspoon. 1996. An Overview of Fire in the Sierra Nevada. pp. 1033-1040 In: Sierra Nevada Ecosystem Project: Final Report to Congress, Vol. II, Assessments and scientific basis for management options. University of California, Davis, Centers for Water and Wildland Resources.
- Meyer, J.S., L.L. Irwin and M.S. Boyce. 1998. Influence of habitat abundance and fragmentation on northern spotted owls in western Oregon. Wildlife Monographs 139: 1-51.
- MGW Biological/Klamath Wildlife Resources. 2005. Diamond Northern Goshawk Survey, Interim Report 2005, Plumas National Forest.
- Minnich, R.A., M.G. Barbour, J.H. Burk, and R.F. Fernau. 1995. Sixty years of change in Californian conifer forests of the San Bernardino Mountains. Cons. Biol. 9:902-914.
- Moghaddas, Jason J. 2006. A fuel treatment reduces potential fire severity and increases suppression efficiency in a Sierran Mixed Conifer Forest. *In: Abstracts, Fuels Management-How to Measure Success*, March 27–30, p.71.
- Moody, Tadashi J and Scott L. Stephens. 2002. Plumas National Forest fire scar reading and cross dating report. July 8, 2002. 26 pp.
- Mutch, L.S. and D.J. Parsons. 1998. Mixed conifer forest mortality and establishment before and after prescribed fire in Sequoia National Park, California. Forest Science. 44: 341-355.
- Ne'eman, G., C. Fotheringham, and J. Keeley. 1999. Patch to landscape patterns in post fire recruitment of a serotinous conifer. Plant Ecology 145:235-242.
- NWCG, 2004. Fireline Handbook NWCG Handbook 3. PMS 410-1, NFES#0065, March, 2004. National Wildfire Coordinating Group, Washington DC.
- Nilsson, Elena, Russel Bevill, and Jerald J. Johnson.
- North State Resources, 2003. USDA Forest Service Plumas National Forest TU-3 Project – Final Report, Northern Goshawk Surveys, October 1, 2003.
- Nuzzo, V. 1997 Element Stewardship Abstract for *Cirsium arvense* (Canada thistle). Nature Conservancy, Arlington, Virginia.
- Oliver, W.W., G.T. Ferrell, and J.C. Tappeiner. 1996. Density Management of Sierra Forests. Chp. 11 In: Sierra Nevada Ecosystem Project, Final Report to Congress, Vol. III. Assessments and Scientific Basis for Management Options. University of California, Centers for Water and Wildland Resources, Davis.
- Oliver, W.W. 1995. Is self-thinning in ponderosa pine ruled by Dendroctonus bark beetles? Forest Health through silviculture: Proceedings of the 1995 National Silviculture Workshop: Mescalero, New Mexico, May 8–11, 1995 p. 213–218.
- Olson, Robert, Ron Heinbockle, and Scott Abrams. 1995. Technical Fuels Report, Lassen, Plumas, and Tahoe National Forest. Pacific Southwest Region, USDA Forest Service. 31 pp.

- Otrosina, W.J. and F.W. Cobbs Jr. 1989. Biology, Ecology, and Epidemiology of *Heterobasidion annosum*. USDA Forest Service GTR-165.
- Payen, L.A. 1966. Prehistoric Rock Art in the Northern Sierra Nevada, California. M.A. thesis, Department of Anthropology, California State University, Sacramento.
- Payen, L.A. and D.S. Boyolan. 1961. Archaeological Excavations at Chilcoot Rockshelter [CA-PLU-44], Plumas County, California. California Division of Beaches and Parks, Archaeological Reports 1:1-14. Sacramento.
- Peterson, D.L., M.C. Johnson, J.K. Agee, T.B. Jain, D. McKenzie, and E.D. Reinhart. 2005. Forest structure and fire hazard in dry forests of the western United States. USDA Forest Service. General Technical Report. PNW-GTR-628.
- PCFSC (Plumas County Fire Safe Council), 2005. Plumas County Communities Wildfire Mitigation Plan. February, 2005. 10 pp.
- Powell, D.C. 1999. Suggested Stocking Levels for Forest Stands in Northeastern Oregon and Southeastern Washington: An Implementation Guide for the Umatilla National Forest. USDA Forest Service, Pacific Northwest Region Technical Publication F14-SO-TP-03-99.
- Powers, R.F. 1999. On the sustainable productivity of planted forests. *New Forests*. 17: 263-306.
- Pronos, J. 1994. Attempts to destroy stumps in an annosus root disease center buffer strip. Appendix pages xiv-xivi. In, Proceedings of the 43rd Annual Meeting, California Forest Pest Council, November 16-17, 1994. Rancho Cordova, CA.
- Raley, Ron. 2001. Plumas National Forest Stream Fire event narrative, PNF-954, 7/25/2001 to 8/3/2001. Plumas National Forest, California Interagency Incident Management Team 5. USDA Forest Service, 23 p.
- Rasmussen, J. 2003. Punch planting, flame weeding, and stale seedbed for weed control in row crops. *European Weed Research Society. Weed Research* 43: 393-403.
- Reineke, L.H. 1933. Perfecting a stand-density index for even-aged forests. *J Agric Res*. 46:627-638.
- Reinhardt, E.D., R.E., Keane, and J.K. Brown. First Order Fire Effects Model: FOFEM 4.0, User's Guide. General Technical Report INT- GTR- 344. 1997.
- Reynolds, R.T., S.M. Joy, and D.T. Leslie. 1994. Nest productivity, fidelity, and spacing of northern goshawks in Arizona. *Studies in Avian Biology* 16:106-113.
- Reynolds, R.T. and S.M. Joy. 1998. Distribution, territory occupancy, dispersal, and demography of northern goshawks on the Kaibab Plateau, Arizona. Final Report, Arizona Game and Fish Heritage Project No. 194045. USDA Forest Service, Rocky Mountain Research Station. Fort Collins, CO.
- Richter, D. J. and R. Callas. 1996. Territory occupancy, nest site use, and reproductive success of goshawks on private timberlands: Progress report. 1996. California Department of Fish and Game, Sacramento, CA.
- Riddell, Francis A. 1978. Maidu and Konkow. In *Handbook of North American Indians in California*, edited by R.F. Heizer (Smithsonian Institution, Washington, DC). 8: 370-386.
- Rotta, G.W. 1999. Biological assessment and evaluation of Herger-Feinstein Quincy Library Group Forest Recovery Act. 219 pp.

- Rotta, G.W. 2006. Wildlife Biologist, Plumas National Forest, personal communication.
- Rotta, G.W. and T. Hopkins 2006. Diamond Project: Affected Environment and Environmental Consequences – Management Indicator Species. 61 pp.
- Russell, K.W., J.H. Thompson, J.L. Stewart, C.H. Driver. 1973 Evaluation of chemicals to control infection of stumps by *Fomes annosus* in precommercially thinned western hemlock stands. State of Washington Department of Natural Resources, DNR Report No. 33. 16 pp.
- Saab, V.A., and Jonathan Dudley. 1997. Bird responses to stand-replacement fire and salvage logging in ponderosa pine/Douglas fir forests of Southwestern Idaho. Progress Report 94-96, U.S. Forest Service, Boise, ID.
- Schlobohm, Paul and Jim Brain. 2002. Gaining and understanding of the national fire danger rating system. PMS-932, NFES#2665. May, 2002. National Wildfire Coordinating Group, Washington DC. 71 pp.
- Schmitt, C.L., J.R. Parmeter, and J.T. Kliejunas. 2000. Annosus Root Disease of Western Conifers. Forest Insect & Disease Leaflet 172. USDA Forest Service. 9 pp.
- Scott, Joe H. and Reinhardt, Elizabeth D. 2001. Assessing crown fire potential by linking models of surface and crown fire behavior. Rocky Mountain Research Paper 29. USDA Forest Service, 59 pp.
- Seamans, M.E., R.J. Gutierrez, C.A. Moen, and M.Z. Peery. 2001. Spotted owl demography in the Central Sierra Nevada. *Journal of Wildlife Management* 65(3): 425-431.
- Sherry, E.W. and R.T. Homes. 1993. "Are Populations of Neotropical Migrant Birds Limited in Summer or Winter? Implications for Management." In *Status and Management of Neotropical Migratory Birds*, edited by D.M Finch and P.W. Stangel. Proceedings of Estes Park Workshop, Sep 21-25. USDA Forest Service, Rocky Mountain Forest & Range Experimental Station, Ft. Collins, CO (GTR RM-229).
- Silen, R.R. and D.L. Olson. 1992. A pioneer exotic tree search for the Douglas-fir region. USDA Forest Service, Pacific Northwest Research Station, Portland, OR, USA.
- Skinner, C.N. 2005. Declaration of Carl N. Skinner, Sierra Nevada Forest Protection Campaign et al v. United States Forest Service and Quincy Library Group. United States District Court Sacramento Division.
- Skinner, Carl N., Martin W. Ritchie, Todd Hamilton, and Julie Symons. 2004. In Press. Effects of prescribed fire and thinning on wildfire severity: The Cone Fire, Blacks Mountain Experimental Forest. Proceedings 25th Vegetation Management Conference, Redding, CA, 12 pp.
- Skinner, C.N. and C. Chang. 1996. Fire regimes, past and present. in: *Sierra Nevada Ecosystem Project, Final Report to Congress, Vol. II. Assessments and Scientific Basis for Management Options*. University of California, Centers for Water and Wildland Resources, Davis.
- Slaughter, G.W. and J.R. Parmeter Jr. 1989. Annosus Root Disease in True firs in Northern and Central California Forests. USDA Forest Service GTR-165.
- Smith, D.M., B.C. Larson, M.J. Kelty, and P.M.S. Ashton. 1997. *The practice of silviculture: Applied forest ecology*. 9th edition. New York: John Wiley & Sons.
- Smith, R.S., Jr. 1970. Borax to control *Fomes annosus* infection of white fir stumps. *Plant Disease Reporter* 54:872-875.

- Steger G.N., T.E. Munton, G.P. Elberlein, K.D. Johnson, and P.A. Shaklee 2000. Annual Progress Report 2000. A study of spotted owl demographics in the Sierra National Forest and Sequoia and Kings Canyon National Parks. Pacific Southwest Research Station, Fresno, CA. December, 2000.
- Stephens, Scott L. and Jason J. Moghaddas. 2005 (a). Experimental Fuel Treatment Impacts on Forest Structure, Potential Fire Behavior, and Predicted Tree Mortality in a California Mixed Conifer Forest. *Forest Ecology and Management* 215:21-36.
- Stephens, Scott L. and Jason J. Moghaddas. 2005 (b). Fire Hazard and Silvicultural Systems: 25 Years of Experience from the Sierra Nevada. *Biological Conservation* 25:369-379.
- Stephens, Scott L. and Jason J. Moghaddas. 2005 (c). Fuel Treatment Effects on Snags and Coarse Woody Debris in a Sierra Nevada Mixed Conifer Forest. *Forest Ecology and Management* 214:53-64.
- Stewart, Omar C. 2003. *Forgotten Fires: Native Americans and the Transient Wilderness*. University of Oklahoma Press. 352 pp.
- Stone, C.O. 1965. Modoc cypress, *Cupressus bakeri* Jepson does occur in Modoc County. *Aliso* 6:77-87.
- Stratton, Richard D. 2004. Assessing the effectiveness of landscape fuel treatments on fire growth and behavior. *Journal of Forestry*, October/November 2004:32-40.
- SVS (Stand Visualization System). 2002. Version 3.36. Developed by Robert J. McGaughey, USDA Forest Service, Pacific Northwest Research Station.
- Syracuse Environmental Research Associates, Inc. (SERA). 1997. Use and Assessment of Marker Dyes used with Herbicides. December 21, 1997. SERA TR 96-21-07-03b. Fayetteville, NY. 47 pp.
1998. A Reevaluation of Methods for Assessing Occupational Exposure in Pesticide Applicators. May 18. SERA TD 98-21-08-01d2. Fayetteville, NY. 45 pp.
2001. Preparation of Environmental Documentation and Risk Assessments. July 18, 2001. SERA MD 2001-01a. Fayetteville, NY. 69 pp.
- 2003a. Glyphosate – Human Health and Ecological Risk Assessment – Final Report. March 1, 2003. SERA TR 02-43-09-04a. Fayetteville, NY. 281 pp.
- 2003b. Triclopyr – Revised Human Health and Ecological Risk Assessments – Final Report. March 15, 2003. SERA TR 02-43-13-03b. Fayetteville, NY. 264 pp.
2004. Clopyralid - Human Health and Ecological Risk Assessment – Final Report. December 5, 2004. SERA TR 04-43-17-03c. Fayetteville, NY. 154 pp.
- 2004a. Documentation for the Use of GLEAMS (Version 3) and Auxiliary Programs in Forest Service Risk Assessments (Version 2.04). February 10, 2004. SERA TD 2004-02.04b. Fayetteville, NY. 49 pp.
- Sykes, N., C. Arrington, and R. Herrmann. 2005. Cultural Resource Inventory Survey for the Diamond Heritage Survey Project, Mt. Hough Ranger District, Plumas National Forest, Plumas and Lassen Counties, California. SWCA Environmental Consultants, Sacramento, CA. Contract #53-9SCP-05-1K-55. Incomplete draft report.
- Taylor, A.H. 2000. Fire regimes and forest changes in mid and upper montane forests of the southern Cascades, Lassen Volcanic National Park, California, U.S.A. *Journal of Biogeography*, 27:87-104.

- Taylor, A.H. 2004. Identifying Forest Reference Conditions on Early Cut-Over Lands, Lake Tahoe Basin, USA. *Ecological applications*, 14(6). pp. 1903–1920.
- Taylor, D.W. 2000. Botanical Resource Survey of the Cold DFPZ, Plumas National Forest, Plumas County, CA. 43 pp.
- Taylor, M.S. 1982. Botanical Field Reconnaissance for the Hungry Compartment. Located in the Mt. Hough Project Files.
- Terborgh, J. 1992. “Perspectives on the Conservation of Neotropical Migrant Landbirds.” In *Ecology and Conservation of Neotropical Migrant Landbirds* edited by J.M. Hagan III and D.W. Johnston. Proceedings of a Symposium on Ecology and Conservation of Neotropical Migrant Landbirds, Dec 6–9, 1989, Woods Hole, MA. Smithsonian Press, Washington DC.
- Thomas, J.W. 1979. Wildlife Habitats in Managed Forests, the Blue Mountains of Oregon and Washington, USDA, USFS, Agriculture Handbook No. 553.
- Thurnhorst, G. and J.M. Swearingen. 2001. Plant Conservation Alliance's Alien Plant Working Group Fact sheet for Canada thistle (*Cirsium arvense*) Accessed: January 2006. <http://www.nps.gov/plants/alien/fact/ciar1.htm>.
- Trombulaak, S.C. and C. Frissell. 2000. Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. *Conservation Biology* (14, No. 1). pp. 18–30.
- Tu, M., Hurd, C. and J.M Randall. 2001. Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas. The Nature Conservancy, Wildland Invasive Species Team. Version April 2001.
- Turner, M.G. et al. 1997. Effects of fire size and pattern on early succession in Yellowstone National Park. *Ecological Monographs* 67(4) pp. 411-433.
- University of California, SNEP Science Team, and Special Consultants. 1996. Fire and Fuels. In Sierra Nevada Ecosystem Project, Final Report to Congress, Vol. I. Centers for Water and Wildland Resources, University of California, Davis, CA, pp. 62–71.
- U.S. Department of Agriculture (USDA). 1997. Forest Vegetation Simulator (FVS) Version 4.0.100.1190 WESSIN variant.
- USDA Forest Service. 1988. *Plumas National Forest Land and Resource Management Plan* and Final Environmental Impact Statement. Pacific Southwest Region, San Francisco, CA.
- 1988b. Plumas National Forest Soil Resource Inventory.
1993. California Spotted Owl Sierran Province Interim Guidelines Environmental Assessment, (CASPO IG EA) January 1993.
1993. Protocol for Surveying for Spotted Owls in Proposed Management Activity Areas and Habitat Conservation Areas. U.S. Forest Service, March 12, 1991. Revised February 1993. 24 pp.
1994. Forest Pest Management Handbook FSH 3409.11 (R5 Supplement No. 3409.11-94-1).
1994. Pesticide-Use Management and Coordination Handbook FSH 2109.14-94-1 (Effective December 6, 1994) Chapter 60.
1994. Timber Sale Administration Handbook. FSH 2409.15 (including Region 5 supplements). Chapter 60.

1995. American Marten, Fisher, Lynx, and Wolverine: Survey Methods for Their Detection (W.J. Zielinski, and T. E. Kucera, eds). USDA Forest Service, PSW-GTR-157. August.
1995. Soil Quality Monitoring, Region 5 Supplement 2509.18-95-1. Soil Management Handbook. FSH (2)2509.18. USDA Forest Service, San Francisco, CA.
1996. Land bird monitoring implementation plan. USDA Forest Service Pacific Southwest Region, Vallejo, CA. 13 pp., unpublished.
1999. Lassen, Plumas, Tahoe National Forests. Herger-Feinstein Quincy Library Group Forest Recovery Act Final Environmental Impact Statement and Record of Decision.
2000. Survey Methodology for Northern Goshawks in the Pacific Southwest Region, U.S. Forest Service.
2000. Water Quality Management for National Forest System Lands in California – Best Management Practices. Pacific Southwest Region, Vallejo, CA.
2001. Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement and Record of Decision. Pacific Southwest Region.
2001. Pacific Southwest Region, California State Historic Preservation Officer, And Advisory Council On Historic Preservation, Regarding The Process For Compliance With Section 106 Of The National Historic Preservation Act For Undertakings On The National Forests Of The Pacific Southwest Region.
2002. Analysis of issues surrounding the use of spray adjuvants with herbicides. Unpublished report, written by David Bakke, Pacific Southwest Regional Pesticide-Use Specialist. September 2002. 43 pages.
2003. Biological Assessment/Biological Evaluation- Wildlife and Aquatic Species: Stream Fire Restoration Project. USDA Forest Service, Plumas National Forest. 117 pp.
2003. Lassen, Plumas, Tahoe National Forests. *Herger-Feinstein Quincy Library Group Final Supplemental Environmental Impact Statement* and Record of Decision. Pacific Southwest Region.
2003. Plumas National Forest. Stream fire restoration, final Environmental Impact Statement. Mt. Hough Ranger District.
2004. Sierra Nevada Forest Plan Amendment, Final Supplemental Environmental Impact Statement, Record of Decision. Pacific Southwest Region, Forest Service, Vallejo, CA.
2005. Forest Service Manual, Chapter 2670. Threatened, Endangered, and Sensitive Plants and Animals.
2005. Plumas National Forest. A Brief History of Plumas County, California. Electronic document, www.cagenweb.com/plumas/hist.htm, accessed December 5, 2005.
2005. Plumas National Forest. Decision Memo: Medusahead Treatment Project (internal document). Mt. Hough Ranger District, May 6, 2005.
2005. Plumas National Forest. The Feather River Country: A Window on the Past. About Us, Plumas National Forest. Electronic document, <http://www.cagenweb.com/plumas/hist.htm>, accessed December 5, 2005.

2005. Tahoe National Forest. Sheep Grazing History: Tahoe National Forest. Electronic document, http://www.fs.fed.us/r5/tahoe/documents/heritage/05_sept_30_historic_grazing.pdf, accessed December 5, 2005.
2006. Antelope Lake Bald Eagle Management Plan. USDA Forest Service Plumas National Forest, Quincy, CA. 36 pp.
2006. Human Health and Ecological Risk Assessment for Borax (Sporax®) Final Report. Prepared by SERA: Syracuse Environmental Research Associates, Inc. for USDA Forest Service Forest Health Protection.
- Forest Management. Service Center at <http://www.fs.fed.us/fmsc/fvs>.
- Soil Conservation Service, USDA. 1989. Soil Resource Inventory of the Plumas National Forest, CA.
- U.S. Environmental Protection Agency (EPA). 2006. The treatment of data influenced by exceptional events: Proposed Rule. Environmental Protection Agency, 40 CFR Parts 50 and 51 [EPA-HQ-OAR-2005-0159; FRL] RIN 2060-AN40.
- U.S. Fish and Wildlife Service. 1986. Recovery Plan for the Pacific Bald Eagle, Portland, OR. 163 pp.
1995. 50 CFR Part 17, Endangered and Threatened Species; Bald Eagle Reclassification; Final Rule. July 12.
1999. U.S. Fish and Wildlife Service Comments, Review and Informal Consultation on the Draft EIS for HFQLGFRA (HR 858 & S1028) Pilot Project on National Forest Service Lands of the Lassen, Plumas and Portions of the Tahoe National Forest, Butte, Lassen, Nevada, Plumas, Shasta, Sierra, Tehama, and Yuba Counties, August 17, 1999.
2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). Region 1, U.S. Fish and Wildlife Service, Portland, OR. 173 pp.
2005. Notice of 90-day petition finding and initiation of status review. *Federal Register*/Vol. 70, No. 118.
2006. Sacramento Fish and Wildlife Office. 2006. Federal Endangered and Threatened Species that may be affected by Projects in the Plumas National Forest. Accessed from http://sacramento.fws.gov/es/spp_lists/NFActionPage.cfm on March 23.
- U.S. Geological Survey (USGS) 2005. Species Abstracts of Highly Disruptive Exotic Plants at Effigy Mounds National Monument, *Cirsium arvense*, Northern Prairie Wildlife Research Center. <http://www.npwrc.usgs.gov/resource/othrdata/exoticab/efficirs.htm>.
- U.S. House of Representatives, 57th Congress, 2nd Session. Forest Conditions in the Northern Sierra Nevada, CA., John B. Leiberg 1902.
- Van Wagendonk, Jan W. 1996. Use of a deterministic fire growth model to test fuel treatments. In: Sierra Nevada Ecosystem Project: Final report to Congress, II: Assessments and scientific basis for management options. Wildland Resources Center Report No. 37, University of California, Davis: 1155-1165.
- Verner, J., K.S. McKelvey, B.R. Noon, R.J. Gutierrez, G.I. Gould, and T.W. Beck. 1992. The California Spotted Owl: A Technical Assessment of its Current Status. GTR PSW-133. Albany, CA: PSW Research Station, USFS, USDA; 285p.

- Vestra, USDA Forest Service. 2002. Plumas-Lassen Administrative Study Vegetation Map. Data derived from vegetation mapping contracted to VESTRA Resources, Redding, CA.
- Vogl, R., K. Armstrong, K. White, and K. Cole. 1977. The closed-cone pines and cypresses. In *Terrestrial vegetation of California*. M. Barbour, and J. Major (eds)., Wiley-Interscience, NY.
- Vollmar Consulting. 2005. Final Botany Survey Report, Diamond Project, Lights Creek Survey Area, Prepared for the Mt. Hough Ranger District, Plumas National Forest. Vollmar Consulting, Berkeley, CA. December, 15.
- Wagener, and Quick. 1963. *Cupressus bakeri*- an extension of the known botanical range. *Aliso* 5:351-352.
- Weatherspoon, Phillip C. and Carl N. Skinner. 1995. An assessment of factors associated with damage to tree crowns from the 1987 wildfires in Northern California. *Forest Science* 41(3): 430-451.
- Weatherspoon, C.P. 1996. Fire-silviculture relationships in Sierra forests. In *Sierra Nevada Ecosystems Project (SNEP) – Final report to Congress. Status of the Sierra Nevada: Volume II, Assessments and Scientific Basis for Management Options*. University of California, Davis, Centers for Water and Wildland Resources, 44: 1167-1176.
- Weatherspoon, C.P. and C.N. Skinner. 1996. Landscape-level strategies for forest fuel management. In *Sierra Nevada Ecosystems Project (SNEP) – Final report to Congress. Status of the Sierra Nevada: Volume II, Assessments and Scientific Basis of Management Options*. University of California, Davis, Centers for Water and Wildland Resources, 44: 1471-1492.
- Western Association of Fish & Wildlife Agencies (WAFWA), 2002: *Mule Deer, Changing Landscapes, Changing Perspectives*. Creative Resource Strategies, OR.
- Westmoreland, Randy. 1999. Draft Forest Health Pilot Monitoring Soil Monitoring. Sierraville Ranger District. Tahoe National Forest. 11 pp. append.
- WGA [Western Governor’s Association]. 2002. A collaborative approach for reducing wildland fire risk to communities and the environment: 10-year comprehensive strategy implementation plan. Western Governors’ Association, 27 p.
- Whitson, T.D. et al. 2002. *Weeds of the West*, Ninth Edition. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services. Jackson, Wyoming. 628 pp.
- Wilbur-Ellis Company. 2001. SPORAX: A Borax fungicide for control of Annosus Root Disease. Material Safety Data Sheet. CDMS, Inc. Fresno, CA.
- Wildwood Consulting 2005. Diamond Project, Plumas National Forest, Wildcat Unit Botany Survey 2005 Report. Prepared for the Mt. Hough Ranger District, Plumas National Forest. Wildwood Consulting, Ashland, OR. November 28.
- Wilmington College. 2003. Accessed May 2006. Non-toxic environmentally friendly cleaning recipes. Wilmington College website. <http://www.wilmington.edu/stuRec.htm>.
- Wisdom, Mike. 1996. Roads, Access, and Wildlife. In *Natural Resources News – Winter 1996*, Blue Mountains Natural Resources Institute.
- Woodall, C.W., C.E. Fiedler, and K.S. Milner. 2002. Stand density index in uneven-aged ponderosa pine stands. *Canadian Journal of Forest Research* 33: 96-100 (2003).

- Woodbridge, B. and P.J. Detrich. 1994. Territory occupancy and habitat patch size of Northern Goshawks in the southern Cascades of California. *Studies in Avian Biology* 16:83-87.
- Woodruff, W. and Kliejunas, J. 2005. Managing Annosus Root Disease in the Diamond Planning Area.(FHP Evaluation) USDA Forest Service Forest Health Protection, Pacific Southwest Region: FHP Report NE05-14.
- Woodruff, W. 2006. Managing Annosus Root Disease in the Canyon Dam Thinning Project. USDA Forest Service Forest Health Protection, Pacific Southwest Region: FHP Report NE06-05.
- Wroblewski, D.W. and J.B. Kauffman. 2003. Initial Effects of Prescribed Fire on Morphology, Abundance, and Phenology of Forbs in Big Sagebrush Communities in Southeastern Oregon. *Restoration Ecology*, V 11 (1).
- Young, Jim, 2003. *Plumas County: History of the Feather River Region*. Arcadia Publishing, Charleston, SC.
- Zabel, C.J., J.R. Dunk, H.B. Stauffer, L.M. Roberts, B.R. Mulder, and A. Wright. 2003. Northern spotted owl habitat models for research and management application in California. *Ecological Applications* 13: 1027-1040.
- Zedler, P.H. 1977. Life history attributes of plants and the fire cycle: a case study in chaparral dominated by *Cyperus forbesii*. Pages 101-112 in H. A. Mooney and C. E. Conrad, editors. *Environmental consequences of fire and fuel management in Mediterranean ecosystems*, Palo Alto, CA.
- Zielinski, W.J., T.E. Kucera, and R.H. Barrett. 1995. Current distribution of the fisher, *Martes pennanti*, in California. *California Fish and Game* 81: 104-112.
- Zouhar, Kris 2001. *Cirsium arvense*. In: Fire Effects Information System (Online). U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: <http://www.fs.fed.us/database/feis/> (January 28, 2006).

Index

- aspen, v, vi, ix, 1-5, 1-6, 2-2-2-6, 2-8, 2-9, 2-12, 2-13, 2-15, 2-17, 2-19-2-22, 2-27, 2-29, 2-34, 2-39, 2-43-2-45, 3-2, 3-16, 3-36, 3-41, 3-70, 4-1, 4-13, 4-33, 4-45, 4-46, 4-66, 4-94, 4-98, 4-132, 4-133, 4-135, 4-150, 4-151, 4-155, 4-195, 4-203, 4-209, 4-213, 4-214, 4-218
- Baker cypress, vi, ix, 1-5, 1-6, 1-11, 2-3, 2-4, 2-9, 2-17, 2-22, 2-28, 2-39, 2-43-2-45, 3-2, 3-55, 3-56, 4-1, 4-2, 4-9, 4-11-4-14, 4-18, 4-24-4-26, 4-43, 4-45, 4-46, 4-166, 4-167, 4-170, 4-174, 4-181-4-183
- bald eagle, 3-21, 3-28, 3-29, 4-81, 4-83, 4-85, 4-114-4-119, 4-223
- Botany, 3-50, 3-51, 3-54-3-60, 4-114, 4-166, 4-167, 4-169, 4-170, 4-171, 4-172, 4-173, 4-175, 4-176, 4-177, 4-178, 4-179, 4-180, 4-183, 4-184, 4-185, 4-187, 4-188, 4-189, 4-190, 4-191, 4-192, 4-193, 4-194, 4-195, 4-196
- California spotted owl, 1-11, 1-14, 2-33, 3-21, 3-29-3-33, 3-35, 3-44, 4-81, 4-84, 4-86, 4-87, 4-119, 4-120, 4-124, 4-127-4-130, 4-137-4-140, 4-142, 4-143, 4-148
- clopyralid, 2-10, 2-11, 2-31, 2-32, 4-71, 4-73-4-75, 4-88-4-90, 4-105, 4-106, 4-111-4-113, 4-127, 4-143, 4-147, 4-153, 4-157, 4-173-4-175, 4-178, 4-183, 4-184, 4-186, 4-192, 4-209, 4-217, 4-218
- density, vi, vii, xvii, 1-5, 1-6, 1-9, 2-6, 2-8, 2-24, 2-39, 2-43-2-46, 3-2-3-5, 3-14, 3-15, 3-18, 3-23, 3-35, 3-41, 3-42, 3-67, 4-1-4-5, 4-7, 4-9-4-11, 4-13, 4-16, 4-19, 4-20, 4-22-4-24, 4-26, 4-27, 4-29, 4-30, 4-32, 4-33, 4-35, 4-40-4-44, 4-46, 4-47, 4-54-4-56, 4-60, 4-61, 4-85, 4-99, 4-114, 4-117, 4-122, 4-129, 4-144, 4-147, 4-150, 4-151, 4-154, 4-155, 4-159, 4-160, 4-174, 4-182, 4-192, 4-193, 4-197
- DFPZ (Defensible Fuel Profile Zone), iii, v, viii, ix, xii, xvi, 1-1, 1-2, 1-4, 1-10, 2-2-2-6, 2-13-2-16, 2-19-2-21, 2-24, 2-25, 2-29, 2-33, 2-34, 2-49, 3-9-3-12, 3-16, 3-22, 3-24, 3-78, 4-7, 4-15, 4-16, 4-18-4-20, 4-33, 4-42, 4-46, 4-53, 4-56, 4-58, 4-59, 4-66, 4-70, 4-81, 4-83, 4-84, 4-86, 4-90, 4-93, 4-94, 4-96, 4-98, 4-114-4-117, 4-121, 4-122, 4-124, 4-127, 4-135, 4-136, 4-139, 4-142, 4-143, 4-147, 4-148, 4-152, 4-154, 4-155, 4-157, 4-163, 4-164, 4-197, 4-201, 4-209, 4-210, 4-214, 4-216-4-218, 5-10
- economics, x, 2-1, 3-47, 4-161
- Equivalent Routed Acres, xvii, 1-7, 1-14, 2-42, 2-47, 3-18-3-20, 4-53, 4-54, 4-82, 4-107
- fire, v-ix, xii, xiii, xv, xvii, xviii, 1-4-1-6, 1-8, 1-10-1-12, 2-2-2-6, 2-8, 2-9, 2-17, 2-19, 2-22, 2-24-2-29, 2-33, 2-34, 2-36-2-40, 2-43-2-48, 3-1-3-5, 3-7, 3-14, 3-18-3-20, 3-23, 3-29, 3-31, 3-42-3-44, 3-49, 3-55, 3-56, 3-58, 3-59, 3-64, 3-72-3-75, 4-1-4-11, 4-13, 4-14, 4-16, 4-18, 4-19, 4-23, 4-24, 4-26, 4-27, 4-29, 4-30, 4-32-4-35, 4-38-4-46, 4-48-4-50, 4-52, 4-58-4-61, 4-64, 4-65, 4-70, 4-80, 4-82, 4-84, 4-88, 4-90, 4-91, 4-93, 4-94, 4-96, 4-98, 4-100-4-102, 4-107, 4-108, 4-110, 4-115-4-119, 4-121, 4-123, 4-129, 4-131, 4-132, 4-135, 4-137, 4-139, 4-140, 4-141, 4-143, 4-144, 4-145, 4-146, 4-148, 4-149, 4-150, 4-151, 4-152, 4-153, 4-155, 4-156, 4-157, 4-158, 4-159, 4-161, 4-163, 4-164, 4-170, 4-171, 4-173, 4-175, 4-178, 4-179, 4-181-4-184, 4-189, 4-190, 4-192, 4-198, 4-199, 4-201, 4-206-4-210, 4-212-4-214, 4-216, 4-220-4-222, 4-224
- firelines, 2-24-2-29, 4-13, 4-55
- fish, vii, ix, 1-6, 1-7, 1-9, 1-15, 2-3, 2-4, 2-9, 2-10, 2-18, 2-23, 2-29, 3-4, 3-14, 3-16, 3-17, 3-21-3-31, 3-40-3-42, 3-44, 3-50, 3-66, 4-57, 4-58, 4-67, 4-68, 4-85, 4-87, 4-89, 4-90, 4-96, 4-97, 4-104-4-106, 4-109-4-111, 4-113, 4-114, 4-116, 4-118, 4-119, 4-138, 4-139, 4-155, 4-157, 4-163, 4-169, 4-199, 4-221, 4-223-4-225
- forest health, v, vii, 1-2, 1-5, 1-7, 2-3, 2-8, 2-24, 3-5, 4-2, 4-4, 4-9, 4-19, 4-27, 4-43, 4-46, 4-48, 4-64, 4-122, 4-161, 4-220
- fuels, iii, v, vi, viii-x, xiii, xv, xvii, 1-1, 1-2, 1-4, 1-5, 1-7, 1-10, 1-11, 1-13, 2-2-2-9, 2-15-2-17, 2-19-2-22, 2-24-2-29, 2-37-2-40, 2-43-2-46, 2-48, 3-1-3-5, 3-9-3-12, 3-14, 3-29-3-31, 3-49, 3-55, 3-56, 3-72, 3-73, 4-1-4-3, 4-5-4-9, 4-11, 4-13-4-27, 4-30, 4-32, 4-33, 4-35-4-46, 4-48-4-50, 4-52-4-67, 4-69-4-71, 4-81, 4-83, 4-84, 4-86, 4-90, 4-91, 4-93-4-95, 4-99, 4-101, 4-102, 4-114-4-123, 4-126, 4-129, 4-131, 4-132, 4-134, 4-137, 4-139-4-154, 4-156, 4-157, 4-159, 4-161-4-165, 4-170, 4-172-4-174, 4-177-4-179, 4-182-4-190, 4-193-4-196, 4-201, 4-207-4-210, 4-212, 4-213, 4-220, 4-222, 4-224
- glyphosate, 2-10, 2-11, 2-31, 2-32, 4-71-4-75, 4-88-4-90, 4-105, 4-106, 4-111-4-113, 4-127, 4-143, 4-147, 4-153, 4-157, 4-174, 4-175, 4-192, 4-209, 4-217, 4-218
- group selection, viii, 2-3, 2-6, 2-9, 2-20, 2-25, 4-27, 4-34, 4-123, 5-12

- harvest, iii, x, 1-1, 1-13, 1-15, 2-3, 2-5-2-8, 2-11, 2-13, 2-15, 2-16, 2-18-2-23, 2-25-2-29, 2-32, 2-36, 2-38, 3-1-3-3, 3-5, 3-7, 3-12, 3-18-3-20, 3-35, 3-40, 3-44, 3-49, 3-71, 3-74, 4-3, 4-8, 4-15, 4-20, 4-26, 4-29, 4-33-4-36, 4-40, 4-52, 4-53, 4-55-4-58, 4-60, 4-65-4-67-4-71, 4-80, 4-93-4-95, 4-98, 4-108-4-110, 4-129, 4-131, 4-152-4-154, 4-156, 4-157, 4-159, 4-161-4-165, 4-172, 4-182, 4-198, 4-201, 4-221
- Heritage Resources, 3-62, 4-203, 4-204-4-206, 4-207
- hydrologic function, 2-29, 3-5, 3-11, 4-52, 4-75
- hydrology, 3-9, 3-18, 3-21-3-23, 4-49, 4-59, 4-81, 4-82, 4-86, 4-93, 4-96, 4-98, 4-106, 4-107, 4-109, 4-113, 4-116, 4-222
- ladder fuels, vi, 1-4, 1-10, 2-7, 2-8, 2-16, 2-21, 2-24, 3-3, 3-14, 4-2, 4-16, 4-19, 4-23, 4-24, 4-26, 4-29, 4-32, 4-38, 4-41, 5-13
- landscape structure, 1-6, 4-3, 4-5, 4-41, 4-42, 4-47
- mastication, viii, ix, xii, 1-1, 2-4-2-9, 2-16, 2-17, 2-19, 2-21, 2-22, 2-24-2-29, 2-31, 4-15, 4-18, 4-20, 4-35, 4-41, 4-68-4-70, 4-93, 4-94, 4-100, 4-134, 4-135, 4-158, 4-161, 4-220, 4-221
- meadow, 1-6, 1-6, 1-7, 1-10, 2-14, 3-15, 3-36, 3-39, 3-65, 3-71, 3-79, 4-41, 4-58, 4-59, 4-65, 4-71, 4-77, 4-78, 4-87, 4-97, 4-107, 4-108, 4-118, 4-127, 4-133-4-135, 4-143, 4-154, 4-164, 4-165, 4-198, 4-199
- mechanical thinning, 2-3, 2-6, 2-8, 2-15, 2-17, 2-19, 2-21, 4-100, 4-121, 4-139, 4-190, 4-220, 5-13
- mountain yellow-legged frog (MYLF), 2-14, 3-22, 3-24, 3-25, 3-26, 4-77, 4-81, 4-82, 4-86, 4-87, 4-89, 4-91-4-95, 4-97-4-105, 4-107, 4-110, 4-113
- no action (no-action), iii, x, xiii, xiv, xv, xvi, 2-1, 2-3, 2-4, 2-39, 2-40, 2-41, 2-42, 2-48, 4-1, 4-8, 4-9, 4-11, 4-13, 4-16, 4-18, 4-22, 4-39, 4-42, 4-43, 4-49, 4-53, 4-59, 4-61, 4-81, 4-83, 4-90, 4-91, 4-98, 4-107, 4-114, 4-115, 4-119, 4-134, 4-141, 4-146, 4-150, 4-151, 4-156, 4-158, 4-162-4-166, 4-170, 4-172, 4-173, 4-177-4-179, 4-181, 4-183, 4-184, 4-186, 4-188, 4-189, 4-191, 4-193, 4-195, 4-198, 4-205, 4-207, 4-209, 4-213, 4-216
- Northern goshawk, xvi, 1-14, 2-39, 2-49, 3-21, 3-29, 3-30, 3-35, 3-36, 4-81, 4-87, 4-119, 4-141, 4-142, 4-144
- noxious weeds, iii, v, viii-x, xiv, xvi-xviii, 1-1, 1-8, 1-11, 2-1, 2-3, 2-4, 2-10-2-12, 2-15, 2-18, 2-23, 2-31, 2-35, 2-38, 2-39, 2-41, 2-43-2-47, 2-49, 3-16, 3-50, 3-56-3-58, 4-13, 4-41, 4-49, 4-50, 4-59, 4-66, 4-72, 4-76, 4-78, 4-79, 4-88, 4-90, 4-98, 4-102, 4-103, 4-107, 4-113, 4-114, 4-127, 4-133, 4-143, 4-147, 4-150, 4-153, 4-157, 4-163, 4-166-4-173, 4-175-4-181, 4-183-4-196, 4-216-4-218, 4-221, 4-224
- Pacific fisher, 3-29, 3-30, 3-36-3-38, 4-81, 4-85, 4-87, 4-119, 4-146, 4-148, 4-149
- particulate matter (PM), 3-7, 4-39, 5-14
- pile burning, 2-5, 2-29, 2-30, 3-7, 4-15, 4-26, 4-69, 4-96, 4-132, 4-161, 4-222, 5-14
- proposed action, iii, v, vi, viii-xi, xiii-xvi, xviii, 1-1, 1-4, 1-11, 1-12, 1-13, 2-1, 2-4, 2-12, 2-13, 2-15, 2-16, 2-18, 2-21, 2-22, 2-32, 2-33, 2-38, 2-40-2-45, 2-48, 2-49, 3-9, 3-29, 3-33, 3-34, 3-40, 3-45, 4-40, 4-48, 4-49, 4-56, 4-64, 4-72, 4-81, 4-83, 4-86, 4-87, 4-99, 4-100, 4-123, 4-124, 4-130, 4-133, 4-139, 4-144, 4-150, 4-160, 4-224, 4-225
- Recreation Opportunity Spectrum (ROS), 3-72, 4-208, 4-210
- reforestation, 3-2, 4-72, 4-130, 4-151, 4-154, 4-155, 4-202
- RHCAs, xiii, xv, 1-6, 1-7, 2-2, 2-3, 2-5, 2-6, 2-9, 2-14, 2-15, 2-17-2-20, 2-22, 2-27, 2-29, 2-30, 2-40, 2-43-2-45, 2-48, 2-49, 3-14, 3-16, 3-23, 3-24, 4-1, 4-2, 4-9, 4-20, 4-29, 4-33, 4-43, 4-45, 4-56, 4-57, 4-59, 4-64-4-67, 4-76, 4-77, 4-79, 4-81, 4-82, 4-86, 4-88, 4-90-4-96, 4-98-4-100, 4-103, 4-105-4-109, 4-113, 4-199
- riparian forest, 3-2, 4-91
- roads, viii, xiii, xiv, xvi, xviii, 1-6, 1-9, 1-10, 1-11, 2-1, 2-2, 2-4, 2-10-2-13, 2-18, 2-23-2-29, 2-32, 2-34, 2-40, 2-41, 2-43-2-47, 2-49, 3-16, 3-19, 3-20, 3-22, 3-23, 3-42, 3-48-3-50, 3-57, 3-61, 3-71-3-76, 4-14-4-16, 4-39, 4-41, 4-49-4-51, 4-55, 4-58, 4-60, 4-64-4-68, 4-81, 4-88, 4-91, 4-94, 4-96-4-98, 4-100, 4-103, 4-107, 4-115, 4-117, 4-118, 4-120, 4-133, 4-134, 4-142, 4-147, 4-152, 4-158-4-160, 4-169, 4-190, 4-191, 4-195, 4-197-4-201, 4-208-4-210, 4-212-4-214, 4-216, 4-225
- soil buffering capacity, 3-11, 4-52
- soil cover, 3-11, 3-12, 4-52, 4-54, 4-58, 4-61, 4-69
- soil porosity, 3-11, 4-52, 4-54, 4-61, 4-64, 4-70, 4-222
- soil productivity, 3-11, 4-49-4-55, 4-58, 4-61, 4-69, 4-70, 4-73, 4-76, 4-79, 4-80, 4-88, 4-102, 4-103

- soils, 1-8, 2-9, 2-25, 2-29, 2-34, 2-37, 3-1, 3-8–3-12, 3-14, 3-18, 3-21–3-23, 3-35, 3-43, 3-50, 3-54–3-56, 3-58, 4-9, 4-24, 4-26, 4-33, 4-36, 4-38, 4-39, 4-41, 4-49, 4-50–4-59, 4-61, 4-64, 4-66–4-76, 4-78–4-82, 4-86, 4-88, 4-89, 4-93, 4-95–4-97, 4-99, 4-101–4-103, 4-106, 4-107, 4-109, 4-113, 4-116, 4-150, 4-161, 4-170, 4-173, 4-177, 4-178, 4-181, 4-184, 4-189, 4-193, 4-197, 4-199, 4-216, 4-220–4-222, 4-225
- species composition, vi, xiii, xv, xvii, 1-5, 1-11, 2-6, 2-8, 2-39, 2-40, 2-43–2-48, 2-48, 3-1–3-4, 3-44, 4-1, 4-2, 4-5, 4-7, 4-10–4-14, 4-19–4-21, 4-25, 4-26, 4-27, 4-29, 4-31–4-36, 4-43, 4-45, 4-57, 4-129
- Threshold of Concern (TOC), iii, x, xiii, xv, xvii, 1-7, 1-14, 2-1, 2-13, 2-14, 2-19, 2-39, 2-40, 2-42–2-45, 2-47, 2-48, 3-18–3-20, 4-49, 4-50, 4-53, 4-54, 4-55, 4-60, 4-67, 4-68, 4-76, 4-77, 4-78, 4-79, 4-80, 4-82, 4-86, 4-92, 4-95, 4-98, 4-100, 4-101, 4-102, 4-103, 4-107, 4-108, 5-16
- transportation system, ix, 1-9, 2-3, 2-4, 2-11, 2-18, 2-23, 3-18, 3-61, 4-58, 4-60, 4-197, 4-199, 4-202
- underburning, 1-1, 2-5, 2-8, 2-9, 2-17, 2-19, 2-21, 2-22, 2-24–2-29, 3-7, 3-18, 4-15, 4-26, 4-34, 4-41, 4-53, 4-58, 4-68, 4-69, 4-100, 4-131, 4-134, 4-151, 4-153, 4-155, 4-161, 4-210, 4-213–4-217, 4-222, 5-16
- Vegetation, iii, 2-46, 3-1–3-3, 3-5, 3-14, 3-16, 3-50, 3-72, 3-78, 4-1, 4-3, 4-4, 4-7–4-10, 4-20, 4-26, 4-29, 4-35, 4-42, 4-75, 4-81, 4-119, 4-122, 4-131, 4-137, 4-150, 4-152, 4-166, 4-170, 4-171, 4-173, 4-174, 4-188, 4-191, 4-193, 4-195, 4-208, 4-209, 4-212
- Visual Quality Objectives, 3-74, 3-75, 4-212, 4-213