



**Figure 1-1.** Backfire Strategy: Fighting Fire with Fire

## Chapter 1. Purpose and Need for Action

### 1.1 Changes Between the Draft Supplemental Environmental Impact Statement and the Final Supplemental Environmental Impact Statement

Minor edits, changes in text formatting and slight modifications to the document structure were completed throughout Chapter 1 to impart clarification of information previously presented. The Project Vicinity Map following Tribal Consultation in the DSEIS has been repositioned to immediately follow Section 1.6 Project Location. Additionally, the Sections on Involvement, Tribal Consultation and Public Agency Involvement in the DSEIS have been incorporated into Section 1.8 Public Involvement. Supplemental information, including comments received on the Draft Supplemental Environmental Impact Statement (DSEIS) received during the 45-day Comment Period, has been incorporated into this Final Supplemental Environmental Impact Statement (FSEIS).

### 1.2. Document Structure

This FSEIS has been prepared per Council on Environmental Quality (CEQ) implementing regulations, in compliance with the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] 1500-1508).

- **Chapter 1. Purpose and Need for Action:** Chapter 1 provides background information about the 1988 *Plumas National Forest Land and Resource Management Plan (LRMP)*, *Herger-Feinstein Quincy Library Group Forest Recovery Act* and the 2004 *Sierra Nevada Forest Plan Amendment*. The following sections disclose the Purpose and Need for the federally Proposed Action, and describes Relevant Issues, key to assessing the scope of the analysis.

- **Chapter 2. Alternatives, Including the Proposed Action:** Chapter 2 includes a description of the alternative development process within the framework of current land management direction. The Chapter begins with a description of the Alternatives Analyzed in Detail, beginning with the No-action Alternative. This discussion presents the proposed treatments first by Design Features and Practices Common to the Action Alternatives Considered in Detail. The next section presents an overview of Monitoring and Mitigation Measures, described in detail by resource program in Appendix E. Additional detailed information is presented by alternative considered in detail, including figures, tables and maps. The following section discusses the Alternative Considered but Eliminated from Detailed Study, along with the rationale. Latter sections disclose a Comparison of Alternatives Considered in Detail.
- **Chapter 3. Affected Environment and Environmental Consequences:** Chapter 3 describes the current physical, biological, human social and community economics within the area of influence, potentially affected by the Alternatives Considered in Detail. Sections present a comprehensive disclosure of potential direct, indirect and cumulative environmental effects, introduced previously within the context of Relevant Issues in Chapter 1, and summarized via indicators displayed in Chapter 2, Comparison of Alternatives. The discussion linked to the Affected Environment and the scope of the analysis of effects is organized by resource, further portrayed by the analysis geographic area and timeframes considered.
- **Chapter 4. Consultation and Coordination:** Chapter 4 provides a list of Preparers and Contributors having input into the preparation of the Final Supplemental Environmental Impact Statement, coupled by a summary of pertinent education, experience and responsibilities. Sections on Distribution of the DSEIS and FSEIS, Acronyms, Glossary and References and Word Index follow. The latter sections contain definitions of key technical terms referred to in Chapters 1 – 3 in this FSEIS.
- **Appendices.** Nine appendices are included in this FSEIS, describing pertinent technical and support information key to understanding the environmental analysis. Appendices address Proposed Vegetation Treatment Schedules, Treatments by Alternative, Project Maps, Road Treatments, Project Design and Mitigation Measures, Economic Analysis, National Forest Management Act Findings, Defensible Fuel Profile Zone Monitoring and Maintenance Guidelines, and Response to Comments.

## 1.3 Background

In 1988, the USDA Forest Service, Plumas National Forest's, Land and Resource Management Plan (LRMP) was completed. It remains in effect, subject to two major amendments described below.

On October 21, 1998, the President of the United States signed the Department of the Interior and Related Agencies Appropriations Act, including Section 401, the Herger-Feinstein Quincy Library Group Forest Recovery Act (HFQLG Act). The HFQLG Act states that the Secretary of Agriculture, acting through the Forest Service and after completion of an environmental impact statement (EIS), shall conduct a Pilot Project for five years on federal lands within the Lassen and Plumas National Forests, and the Sierraville District of the Tahoe National Forest.

The Pilot Project acts to demonstrate the effectiveness of specific resource management activities, including construction of a strategic system of fuel breaks or Defensible Fuel Profile Zones (DFPZ), implementation of group selection (GS) and avoidance or protection of specified species.

The HFQLG EIS was completed on August 17, 1999, and the Record of Decision (ROD) was signed on August 20, 1999. The ROD amended the LRMPs on the Lassen, Plumas and Tahoe National Forests, and gave direction to implement the resource management activities required by the HFQLG Act. A USDA Forest Service, FSEIS and ROD were adopted on July 31, 2003. In December 2007, the Consolidated Appropriations Act 2008 (H.R. 2764), Division F - Department of the Interior, Environment, and Related Agencies Appropriations Act, Section 434 was signed, which extended the HFQLG Pilot Project legislation through 2012.

In 2001, the USDA Forest Service, Sierra Nevada Forest Plan Amendment (SNFPA) FEIS and ROD were authorized. The 2001 SNFPA ROD was replaced in its entirety by the 2004 SNFPA ROD. In the 2004 SNFPA ROD, the Lassen and Plumas National Forests and the Sierraville Ranger District of the Tahoe National Forest were directed to implement the HFQLG Pilot Project, consistent with the HFQLG Act and Alternative 2 of the HFQLG FEIS (USDA Forest Service 2004, p. 66).

The Watdog Project addressed opportunities and needs as identified in the 2005 US Forest Service, *Fall River South Branch Middle Fork of the Feather River Landscape Assessment*, incorporated by reference as pertinent information to the preparation of the Watdog Project FSEIS.

## 1.4 Purpose and Need

The purpose and need for the Watdog Project, Proposed Action responds to several resource and social elements, as follows:

- Promote fire resilient<sup>1</sup> forest ecosystems to improve firefighter safety and wildfire suppression efficiency by adding to the Feather River District's Defensible Fuel Profile Zone's<sup>2</sup> (DFPZ's) network, in support of the 300,000-acre fuel break strategy per the Herger-Feinstein Quincy Library Group (HFQLG) Forest Recovery Act Pilot Project. This proposal is designed to construct DFPZ's to accomplish an additional estimated 20 percent of the District's program, of which 40 percent has been either previously authorized or is in the final stages of the environmental analysis process.
- Alter existing conditions to achieve uneven-aged, multistory, fire-resilient forest ecosystem conditions, while contributing to community stability through the application of Group Selection (GS) provisions<sup>3</sup> of the HFQLG Forest Recovery Act.
- Reduce transportation system generated resource impacts by accomplishing infrastructure upgrades/re-location and decommissioning/closing unessential roads to lower overall road densities, while improving road access to aid proposed Watdog Project activities.

---

<sup>1</sup> **Fire Resiliency** - Refers to the ability of an ecosystem to maintain diversity, integrity and ecological processes following a wildfire disturbance.

<sup>2</sup> **Defensible Fuel Profile Zone's (DFPZ's)** - Strategically-located, 1/4-1/2 mile wide strips of land where combustible fuels are reduced, in order to prevent flames from reaching into tree canopies, thereby reducing the probability for large-scale, destructive wildfires.

<sup>3</sup> **Group Selection** - Refers to a silvicultural system involving the removal of small areas of trees (generally <2 acres in size), to allow for sufficient sunlight to promote seedling regeneration, growth and survival of shade-intolerant tree species such as hardwoods.

- Promote a species diverse forest ecosystem, particularly where hardwoods such as black oak are present to stimulate natural regeneration, tree health and growth using vegetation management practices.
- Provide for healthy aquatic and riparian (meadow) ecosystems by improving fish passage at migration barriers, along with streambank stabilization and meadows enhancement using watershed restoration practices.

The following discussion provides detailed information by Purpose Element to further address Purpose and Need elements. Each section begins with the Purpose Element, followed by pertinent Background regulatory and policy direction, descriptions of Existing and Desired Conditions, which provided the framework for the final description of proposed Management Strategies and Objectives to Achieve Desired Conditions.

#### 1.4.1. Implement Hazardous Fuels Reduction by using the DFPZ Provisions of the HFQLG Act

**Purpose:** To test their effectiveness, reduce the potential size of wildfires, and provide fire suppression personnel safe locations for taking action against wildfires, implement DFPZs as part of the larger HFQLG fuel treatment network, as directed by the HFQLG Act (Section 401 (b)(1) and (d)(1)) and the SNFPA.

**Background.** As described above, the 2004 SNFPA FSEIS ROD directed the Plumas National Forest to implement the HFQLG Pilot Project. The Watdog DFPZs, along with existing, adjacent DFPZs in the Bald Onion Project Area, may function to limit the potential size and loss of resources from large, high-intensity wildfire. DFPZs are strategically located and designed strips of land where surface fuels (i.e., excess down woody material), ladder fuels, and canopy fuels are treated in order to prevent the transition of surface fires into large, destructive canopy fires. Also, DFPZ's are designed to allow a fire to drop from the canopy to the forest floor. DFPZs are wide enough to capture most short-range spot fires within the treated area and are designed to provide fire suppression personnel with a safe location from which to take fire-suppression actions. DFPZs are usually located along roads, ridgetops, meadows, or rocky areas to enhance their effectiveness and accessibility and to maximize aerial retardant coverage.

Historically the Project Area experienced frequent, low intensity wild fires. However, as a result of land management activities and fire suppression, fuels have accumulated. Consequently, the Project Area is likely to experience high intensity stand replacing wildfires, which have the potential to negatively impact key ecosystem components.

Since the turn of the century, large fires in the Project Area were reported in 1917 (760 acres), 1918 (651 acres), 1926 (354 acres), 1929 (6,147 acres), 1931 (247 acres), 1980 (410 acres), and 1981 (551 acres). This list should not be considered a complete record, as low-intensity fires can often burn several hundred acres without detection and historic records are often incomplete.

From 1970 to 2003, fire history records show a total of 54 fires in and near the Watdog Project Area. They ranged from 1/10 of an acre to approximately 1,500 acres in size. Of these 54 fires, 21 (40 percent) were caused by humans. The remaining fires were caused by lightning strikes. Fire continues to influence this landscape today.

**Existing Conditions.** Existing fuel conditions within the Project Area consist of moderate-to-high surface fuels and low-to-high ladder fuels. The ladder fuels consist of ground fuels and the lowest branches of each tree. Crown base height is measured from the lowest tree branches to the ground. The

existing live crown base height is considerably lower than the 15–25 foot heights needed to isolate the crowns from surface fires. Current surface fuel loadings would generate flame lengths exceeding 4–6 feet, the range of flame lengths that can be attacked by ground forces. Predominant surface fuel conditions, combined with predominant live crown base heights, result in a condition where wildfire would transfer from surface fuels to the canopy during 90th percentile fire weather conditions. Also, existing canopy cover is relatively high, appreciably exceeding 40 percent in most stands in the Project Area. Fire that reaches the canopy in these stands can easily advance through the canopy, causing large, stand-destroying fires throughout the Project Area.

**Desired Conditions.** Vegetative conditions would allow for low intensity or surface wildfires to increase fire fighting safety and production rates, with minimal potential for large-scale crown fire in the Project Area. This would protect valuable forest resources such as future forest products, forest ecosystems, and the Middle Fork Feather River watershed from potentially severe damage. These advantages reduce the probability of loss of life and property in the “at risk” communities of Brush Creek, Feather Falls/Lumpkin Ridge, La Porte, and Strawberry Valley.

**Management Strategies and Objectives to Achieve Desired Conditions.** Desired conditions for DFPZs are consistent with those described in the 1999 HFQLG FEIS, particularly in appendix J. These include modified fuel and vegetation in linear strips approximately ¼ mile wide that would appear as open forest stands dominated by large trees (HFQLG FEIS, p. 2-20). Canopy closure would be approximately 40 percent (HFQLG FEIS, p. 2-20), although adjustments in stand density based on local conditions are appropriate (HFQLG FEIS appendix J, p. 5). Smaller trees (ladder fuels) may be present in small clumps or individually, but would generally be absent. See “Section 3.12: Vegetation” in Chapter 3 for more information. The forest floor would be relatively open, with the exception of occasional large logs (HFQLG FEIS, p. 2-20). DFPZs would not have an abrupt edge, but would blend into the adjacent forest (HFQLG FEIS appendix J, p. 4).

Treatments in DFPZs are also defined by standards and guidelines in the 2004 SNFPA ROD that limit changes to vegetation conditions in DFPZs (2004 SNFPA ROD table 2, p. 68). These limits include exclusion of DFPZs from offbase and deferred areas, spotted owl and goshawk Protected Activity Centers (PACs) and Spotted Owl Habitat Areas (SOHAs), and California Wildlife Habitat Relationships (CWHR) Classes 5M, 5D, and 6 within late-successional old growth (LSOG) rank 4 and 5 stands. Tree removal limits include: (1) an upper diameter limit of 30 inches dbh, except to allow operability; (2) retention of specified percentages of existing basal area and canopy cover in small trees in CWHR 4M, 4D, 5M, 5D, and 6 LSOG class stands; and (3) at least 40 percent canopy cover in CWHR 5M, 5D, and 6 LSOG class stands.

DFPZ treatments are required to change existing conditions toward desired conditions. In stands with excessive surface and ladder fuels, mechanical fuels treatments (including hand thinning and piling) are needed, due to the high potential risk either all or most canopy cover and old forest structure would be lost without treatments in advance.

Treatments in Riparian Habitat Conservation Areas (RHCA) would be designed to enhance and maintain physical and biological characteristics associated with aquatic and riparian dependent species. In those RHCA where mechanical treatments are not permitted, underburning would be used to reduce fuels and provide for continuity of DFPZs.

Firelines would be constructed to contain prescribed underburning operations as portrayed in Figure 1-2 below, within specified areas. Treatment in RHCA would be limited to underburning, hand piling, pile burning, and hand thinning except in some plantations where mechanical treatments would be utilized on a limited basis.



Figure 1-2. Prescribed Underburning Operation

#### 1.4.2. Implement Group Selection Provisions of the HFQLG Act

**Purpose:** Test the effectiveness of uneven-aged silvicultural practices to promote uneven-aged, multistory, ecologically fire resilient forests, while providing an adequate timber supply contributing to the economic stability and employment of rural communities as directed in the HFQLG Act (Section 401 (b) (1) and (d) (2)) and the SNFPA.

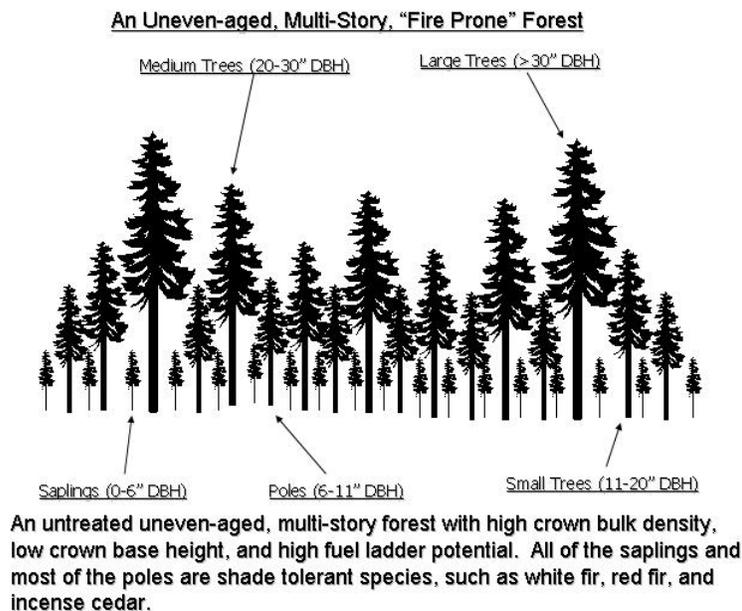
**Background** – The HFQLG Act requires that the effectiveness of Group Selection in achieving an uneven-aged, multistory, fire-resilient forest be demonstrated. It calls for a Pilot Project to carry out group selection prescriptions as described in the Quincy Library Group Community Stability Proposal, over an average of 0.57 percent of the Pilot Project land area each year, using the most cost effective means available. Other recommendations of the Quincy Library Group Community Stability Proposal pertinent to Group Selection provisions, includes producing an adequate timber supply to support local economic stability, maintaining a relatively continuous forest cover, and creating fire-resilient forest conditions.

The HFQLG Pilot Project is designed to test and demonstrate the effectiveness of certain fuels and vegetation management activities, including group selection, in meeting ecologic, economic, and fuel-reduction objectives. Full implementation of the HFQLG Forest Plan amendment would result in an annual average of 8,700 acres of group selection across the Pilot Project Area, consistent with protection of ecosystems, watersheds, and other forest resources; good silvicultural practices; and economic efficiency. The proposed Group Selection prescriptions of the Watdog Project contribute toward achieving this goal.

**Existing Conditions** – Past land management activities and years of fire suppression has led to a buildup of flammable plant materials across much of the Project Area. As forest fuels have accumulated, the forest structure has changed, resulting in continuous fuel ladders between the ground surface and the upper tree canopies that allow wildfire to rapidly climb up into the canopy. Stands in the Project Area vary considerably in size, from patches a few acres in size to large expanses of even-aged forest created by past wildfire or silvicultural practices.

Tree size classes and stand densities also vary considerably, but the distribution of tree size classes relative to the natural forest is skewed towards younger stands as a result of past management. These stands are generally even- or uneven-aged, and overstocked with young shade-tolerant, fire sensitive,

white fir and incense cedar trees, 0–6 inches at the rate of 600–800 trees per acre, that contribute to the ladder fuels (Figure 1-3).

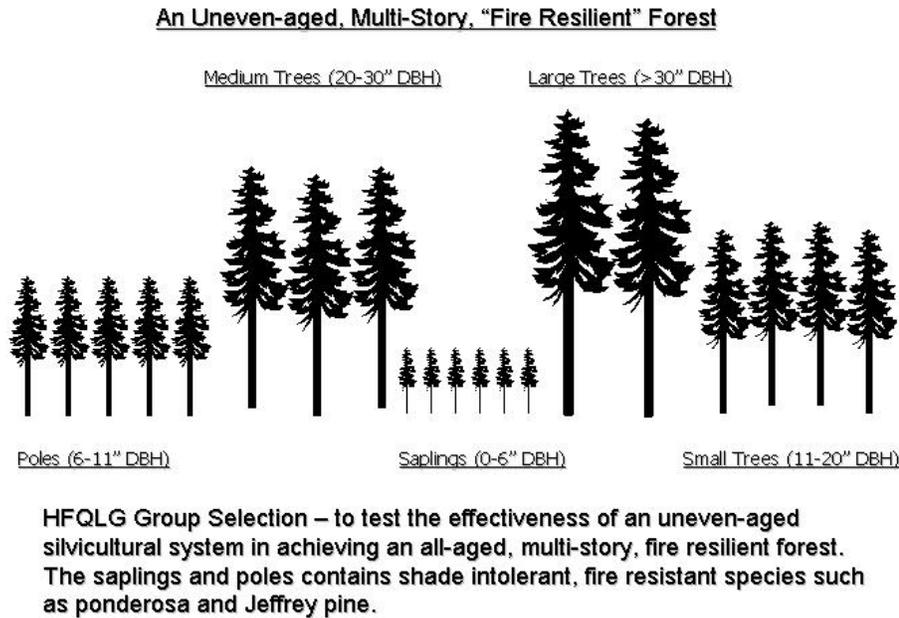


**Figure 1-3.** A simplified representation of an uneven-age, multi-story, "fire prone" forest.

**Desired Conditions.** On a landscape level, desired conditions involve forest stand structure composed of uneven-aged, multistory, fire-resilient forest, without the fuel ladders. Forested stands would be composed of even-aged vegetation groups, with the groups generally ranging from 0.5 acre to 2 acres in size. Size classes would range from seedlings to large diameter trees and would be well-distributed to allow regulated yields with an average rotation age of 175 years, varying according to site quality. Species composition would vary by elevation, site productivity, and related environmental factors. Canopies in older stands would be multi-tiered.

Snag trees, both standing and fallen, would meet habitat needs of old forest-associated species and would provide habitat in early seral stage vegetation conditions as well. Losses from drought, insect infestation, and disease would be within natural ranges of variability. Specifically, desired conditions within Group Selection areas entail successful regeneration of tree species dominated by shade-intolerant species, uneven-aged multistory structure including fire-resilient trees greater than 30 inches dbh.

**Management Strategies and Objectives to Achieve Desired Conditions.** Group Selection elements of the Proposed Action as described are required to change existing conditions to desired conditions. The openings created by group selection would allow sunlight to reach the forest floor, creating favorable conditions for the establishment and growth of shade-intolerant, fire-resilient species such as ponderosa pine. The openings would allow establishment of new regeneration, naturally and through selective replanting, resulting in a stand with a wide range of age and size classes.



**Figure 1-4.** A simplified representation of an uneven-age, multi-story, "fire resilient" forest.

Over time, implementation of group selection on a landscape-scale would maintain a wide range of tree ages and size classes from seedlings to large diameter trees in each forest stand, as depicted in Figure 1-4. Uneven-aged management and Group Selection in particular, create a diverse vertical and horizontal structure by breaking up canopy continuity and reducing ladder fuels. This would alter the structure of the forests from even-aged or uneven-aged with a high risk fire ladder potential to the desired condition of uneven-aged, multistory, and fire-resilient. Group Selection would be used to enhance health and vigor of stands and to achieve or maintain desired stocking levels, while generating cost-effective sawlog products and revenue.

### 1.4.3 Improve Transportation System to Provide Project Access and Reduce Impacts

**Purpose:** Provide necessary access to facilitate Group Selection and DFPZ construction operations, consistent with the HFQLG Act [Section 401 (b) (1), (d) (1), (d) (2)] and the 2004 SNFPA, and reduce forest resources impacts being generated by the existing transportation system by implementing road relocation and/or improvements consistent with the HFQLG Act [Section 401 (b) (1), (c) (2) (B),(d) (4)] and HFQLG FEIS: Appendix R., Riparian Management Plan.

**Background** – The transportation system needs for the Watdog Project Area were identified through a roads analysis and during alternative development. As the Plumas National Forest is currently undergoing an OHV Route Inventory and Designation process, roads proposed for decommissioning or closure in this project would not be closed until this process has been completed unless the following criteria apply:

- 1) Dead end spurs or routes that show no evidence of OHV use, which are also contributing to resource damage.
- 2) User created routes in areas that are already closed by existing Forest Orders.
- 3) Routes that are creating egregious resource damage, to the extent that a delay in their closure would result in unacceptable and irretrievable impacts to the resource.

**Existing Conditions.** Presently road densities are classified as moderate to high (an average estimated 5 miles per square mile), having detrimental impacts to water quality and aquatic resources. On selected streams in the Project Area, poorly designed and/or maintained culverts have created barriers for some aquatic-dependent species such as rainbow trout. The culverts are interfering with the connectivity of watersheds by isolating populations and obstructing movement for migration, reproduction, or survival. Some culverts were not designed to accommodate up to 100-year flows and are prone to blockage or failure during periods of high flow. In addition to moderate to high road densities, surveys indicate infrastructure generated erosion and sedimentation is compromising water quality and aquatic habitats. Road reconstruction and maintenance is needed to remove fish barriers and improve surfacing and drainage to ensure public safety. Lastly, the current transportation system is insufficient to facilitate DFPZ and Group Selection treatment operations.

**Desired Conditions.** The Forest Service road system provides for suitable conditions for passage of all Forest Service and cooperator emergency vehicles at a low to moderate road density, while meeting resource management and public access needs in compliance with current management direction.

**Management Strategies and Objectives to Achieve Desired Conditions.** The following management strategy is based upon an analysis of resource impacts and known access requirements to facilitate proposed DFPZ and Group Selection treatments. To minimize adverse effects on watershed conditions and wildlife habitat the Watdog Project proposes road improvements.

Removing or upgrading culverts would restore riparian and aquatic habitat, ensure adequate bedload transport and deposition, accommodate at least a 100-year flow, and minimize the risk of blockage and streamflow diversion out of the channel. Culvert replacement, removal, or upgrade is needed to improve stream connectivity.

Road decommissioning/closure is needed to reduce erosion, sedimentation, and soil compaction and to reduce road density and wildlife impacts. Roads proposed for decommissioning or closure are causing major resource impacts and are not needed because alternate road access is available. Closure of spur roads is needed to reduce erosion, sedimentation, soil compaction, and impacts on wildlife. Temporary road construction is needed to access group selection and DFPZ units where existing road access is absent.

New system road construction is needed to provide access to one of the proposed treatment areas currently without road access. Landing construction and reconstruction is needed to facilitate removal of wood products.

#### 1.4.4 Restoration of California Black Oak Stands

**Purpose:** Promote shade-intolerant hardwoods and create openings for selected stands around existing California black oaks to stimulate natural regeneration (2004 SNFPA ROD, p. 52–53).

**Background.** The HFQLG FEIS (p. 2-9, 2-10) provides direction for managing oaks. The 2004 SNFPA ROD (p. 35) includes a goal to establish and maintain sufficient quality and quantity of hardwood ecosystems, such as those dominated by black oak, to provide important habitat elements for wildlife and native plant species. Within the Forest-wide Standards and Guidelines of the ROD, Forests are directed to promote shade-intolerant trees such as pines and hardwoods (Standard and Guideline #12) and create openings around existing California black oaks to stimulate natural regeneration (Standard and Guideline #18).

**Existing Condition.** Wildlife use montane hardwoods as places to hide, thermal cover, and escape from predators and wildfires. Oaks may be the single most important genus used by wildlife for food and cover in California forest and rangelands. Many vertebrates, such as bear, deer, squirrels, woodrats, and band-tailed pigeons depend on the nutritious acorn crop for food. California black oaks have been specifically identified as important habitat elements for two Forest Service sensitive species: the pallid bat and the Pacific fisher. Due to past land use and management practices, tree populations and distribution of black-oak stands has been dramatically reduced. Additionally, land management practices have created existing dense stands of suppressed oaks in mixed conifer transition zones.

**Desired Conditions.** Black oak ecosystems are well-distributed providing for vegetative and wildlife species diversity and resiliency. Natural regeneration is dispersed, tree densities are appropriate to growing conditions and healthy trees 15+ inches in diameter at breast height (dbh) are a dominant feature.

**Management Strategies and Objectives to Achieve Desired Conditions.** Proposed treatments to remove encroaching conifers less than 30 inches dbh in selected black oak stands would contribute to achieving desired conditions, by maintaining and enhancing oak growth and mast production and promoting a more natural forest ecosystem with a greater abundance of hardwoods. Oaks would be retained at an average 25-35 basal area in square feet per acre for trees 15+ inches in diameter at breast height (dbh), with additional hardwoods over 30 inches dbh preserved. Where densely growing suppressed oaks are present, thinning practices would be employed to reduce competition for limited resources and to improve growth rates and tree health.

#### 1.4.5 Restoration of Aquatic and Riparian (Meadow) Ecosystems

**Purpose:** To achieve healthy aquatic and riparian ecosystems as directed in the HFQLG Act (Section 401 (b) (1), (c) (2) (B), and (d) (4)) and the HFQLG FEIS (Appendix R), through the implementation of restoration projects

**Background.** The Scientific Analysis Team (SAT) guidelines (HFQLG FEIS Appendix L) apply to management of aquatic, riparian, and meadow ecosystems for all HFQLG Pilot Projects, including Riparian Management Objectives (RMOs) intended to maintain or restore ecosystem components, structures and processes.

**Existing Conditions.** The physical structure and condition of some streambanks has degraded due to poorly maintained or improperly designed roads, and stream crossings and heavy impacts through time and from recreational uses. At these locations there is alteration in flow, sediment loading, sediment transport and deposition, channel morphology, channel stability, substrate composition, and riparian condition, leading to degradation of water quality and aquatic habitat.

Meadow habitats within the Project Area are desirable for plant and wildlife diversity and sediment retention. Although many meadows in the Project Area have been treated in the past to remove encroaching conifers and stabilize streambanks with logs and rock check dams, meadow habitat continues to be lost or degraded due to conifer encroachment and streambank destabilization.

**Desired Conditions.** Consistent with SAT direction, the desired conditions consists of habitats which support populations of well-distributed native plant, vertebrate, and invertebrate populations to contribute to the viability of riparian plant communities. The diversity and productivity of native and desired non-native plant communities in the riparian zone are effective in stabilizing streambanks to minimize erosion and sedimentation, while sustain desired habitat diversity and maintaining channel migration characteristics mimicking conditions under which the desired communities developed.

Instream flows support desired riparian and aquatic habitats, the stability and effective function of stream channels, the ability to route flood discharges, stream channel integrity, channel processes, and the sediment regime under which the riparian and aquatic ecosystems developed.

**Management Strategies and Objectives to Achieve Desired Conditions.** The Watdog Project includes opportunities to restore meadow and riparian ecosystems by removing encroaching conifer species <10 inches dbh and stabilizing degraded streambanks using natural structures and re-vegetation.

## 1.5 Proposed Action

The USDA Forest Service, Plumas National Forest, Feather River Ranger District proposes to complete the following activities as part of the Watdog Project. The project would be part of the HFQLG Pilot Project authorized in federal law and likely to begin in the fall of 2008. Proposed treatments would:

- Construct approximately 24 miles of DFPZs (encompassing an estimated 4,000 acres), averaging 0.25 mile in width to reduce fuel hazards.
- Implement the HFQLG Pilot Project forest management strategy, utilizing group selection treatments to regenerate fire-resilient species on 231 acres within and adjacent to the DFPZ treatment units.

Perform a range of watershed and wildlife habitat restoration activities.

- Restore 40 acres of black oak stands.
- Restore 25 acres of meadow.
- Stabilize 1,100 feet of streambanks

Improve transportation systems to provide access to treatment units, improve response time in the event of wild fire, and reduce impacts to watershed and wildlife habitat.

- Approximately 4.5 miles of existing system road and 0.1 mile of non-system road would be closed with barriers upon project completion.
- Approximately 9 miles of existing system road and 3.7 miles of non-system road would be decommissioned during project implementation.
- Approximately 1.2 miles of new system road would be constructed and closed upon project completion.
- Approximately 1.8 miles of existing road would be removed from the system.
- Approximately 0.5 mile of temporary roads would be constructed and then decommissioned after the project is implemented.
- Approximately 17.1 miles of road would be reconstructed and left open upon project completion.
- Approximately 0.7 mile of system road would be reconstructed prior to project use and closed upon project completion.
- Upgrade 2 culverts, remove 3 culverts, and replace and/or reconstruct 1 low water crossing to improve fish passage.

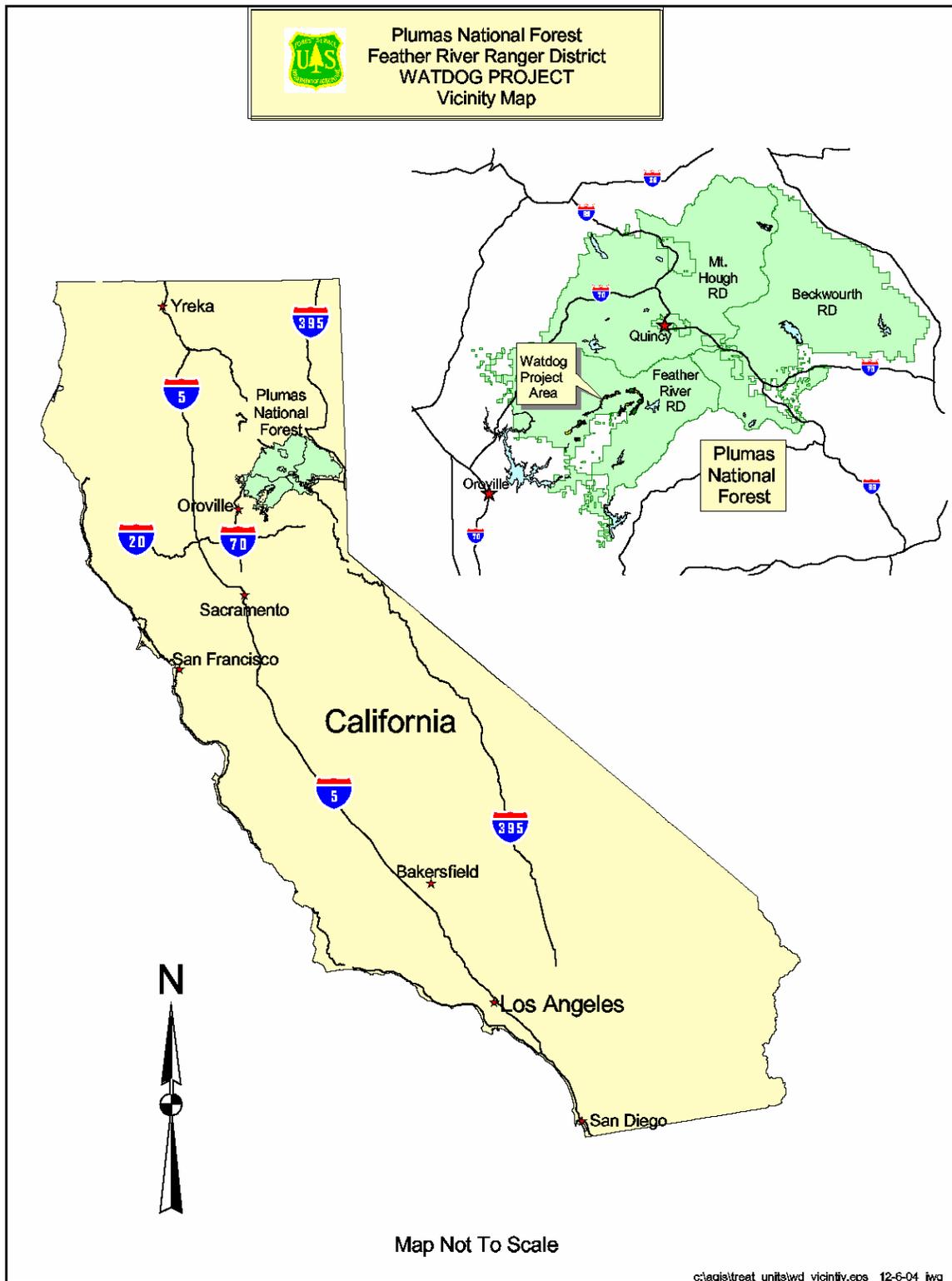
## 1.6 Project Location

The Watdog Project Area encompasses about 6,000 acres and lies between Feather Falls to the west, Little Grass Valley Reservoir to the east, Table Mountain to the north, and Frey Creek to the south in northern California (see Map 1-1. Vicinity Map). Approximately 74 percent of the Watdog Project Area is located within Plumas County, with the remaining 26 percent located within Butte County.

Proposed DFPZs are located primarily on Hartman Bar and Watson Ridges and include a portion of the north and east ends of Lumpkin Ridge, an area around Camel Peak, and an area near Jackson Ranch. Group selection units are distributed throughout the DFPZs and in some adjacent areas.

- The legal description of the Project Area is: Township (T) 21N, Range (R) 6E, portions of Sections 13, 14, 22, 23, and 25; T21N, R7E, portions of Sections 5-8 and 18; T21N, R8E, portions of Sections 3 and 5; T22N, R7E, portions of Sections 13, 14, 23, 24, 26, 27, and 32-34; and T22N, R8E, portions of Sections 13-15, 17-19, 24-28, and 32-35, Mount Diablo Base and Meridian.

As described in the amended, 1988 Plumas National Forest Land and Resource Management Plan, the Project Area includes small portions of Management Areas 9 Kennedy and 13 Lost Creek, with the majority of the Project Area located within Management Areas 10 Feather Falls and 12 Pinchard. Each management area represents a contiguous unit of land with varying physical and biologic character and management needs, coupled by general land management direction and Standards and Guidelines (refer to Map 2-1. Management Direction and Land Allocations).



Map 1-1. Vicinity Map

## 1.7 Decision Framework

The Responsible Official for the Watdog Project, Forest Supervisor Alice B. Carlton, will decide whether to implement the Watdog Project as identified in the Proposed Action, implement the project based on alternatives to the proposal, or not implement this project at this time.

## 1.8 Public Involvement

Scoping is the early and open process for determining the “scope” of issues to be addressed, based on their extent, duration and intensity, and for identifying the significant or relevant issues related to the Proposed Action. Consequentially, extensive public involvement was conducted for the Watdog Project in order to solicit comments to facilitate the environmental analysis process. The Forest Service used a variety of methods to solicit input and comments from members of the public, other public agencies, tribes, adjacent property owners, and organizations.

In October of 2002, the Watdog Project was included in the Plumas National Forest Schedule of Proposed Action, which was posted on the Plumas National Forest internet website and mailed to interested parties. The project was presented in the fall of 2002 to the Plumas and Butte Counties Fire Safe Councils. A public field trip to units in proposed DFPZs was held on October 30, 2002. A press release (October 7, 2002) announcing the field trip was sent to local newspapers, organizations, and individuals that had expressed interest in forest planning activities. The press release was also posted at the store and post office in the town of La Porte. The field trip included stops along the proposed fuel break to look at several units proposed for different treatments, such as mechanical thinning, underburning, and biomass thinning.

A legal notice announcing the start of the scoping process was published in the Oroville Mercury-Register and the Feather River Bulletin on March 4, 2003. In March of 2003, a scoping letter for the Watdog Project was mailed to interested and affected tribes, individuals, organizations, and federal, state, and local agencies with responsibilities for local resource management. The following federally recognized tribes and interested and affected tribes were consulted regarding the Watdog Project: Mooretown Rancheria, Enterprise Rancheria, Berry Creek Rancheria, Chico Band of Mechoopda Indians, and the Konkow Valley Band of Maidu. No concerns were raised during consultation.

The Feather River Ranger District held an open house June 15 and 16, 2004. The purpose of the open house was to provide members of the community and surrounding areas with the opportunity to learn more about upcoming HFQLG Act projects, including the Watdog Project. A press release (May 18, 2004) announcing the open house was sent to local newspapers, organizations, and individuals that had expressed interest in forest planning activities.

In December of 2004, a revision of the proposed action (based on the 2004 SNFPA decision) was mailed to 93 individuals, groups, organizations, tribes, and federal, state, and local agencies. The scoping letter was sent to those who expressed interest in the proposal, those who owned property or held mining claims in and adjacent to the Project Area, and agencies with responsibilities for local resource management. A Legal Notice announcing the start of the scoping process was published in the Feather River Bulletin on December 7, 2004.

After evaluating responses to the December 2004 scoping period, a decision was made by the Responsible Official to proceed with the preparation of an EIS for the Watdog Project. The Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on February 10, 2005. The NOI asked for public comment on the proposal within 30 days of the publication of the notice in the Federal Register. The Forest Service received eight responses providing comments and concerns. Using the comments, the IDT developed a list of issues to address in the course of analysis.

In June 2005, the Draft Environmental Impact Statement (DEIS) was mailed to 15 federal, state, and local agencies, 5 federally recognized interested and affected tribes, 10 organizations, and 3 individuals who either specifically requested a copy of the document or submitted substantive comments during scoping. The 45-day comment period officially began on June 24, 2005, when the Notice of Availability (NOA) was published in the Federal Register. The comment period on the DEIS ended August 8, 2005. Two government agencies, two groups, and one individual submitted comment letters on the DEIS. In December 2005, the decision accompanying the FEIS was withdrawn by the Responsible Official.

The Watdog Project Draft Supplement EIS (DSEIS) was made available to the public in August 2006. The comment period ended on October 16, 2006. Similar to the DEIS, two government agencies, two groups and one individual submitted comments on the DSEIS. The March 2007, FSEIS and Record of Decision were administratively appealed. The NOA for the Final Supplemental EIS (FSEIS) was published April 2007. The Appeal Deciding Officer reversed the Forest Supervisor's decision to implement Alternative B on June 27, 2007.

On July 18, 2007, a NOI was published in the Federal Register. On December 21, 2007, a NOA was published in the Federal Register to announce plans to prepare a second Draft Supplemental EIS. Upon publication in the Federal Register, legal notices were posted in two local newspapers to announce the opening of the public comment period in December 2007. Letters were sent to Tribal members and other interested citizens who previously expressed interest in the Watdog Project, indicating supplemental information had been prepared and is availability for public review. The Forest Service website was also updated to reflect the changes and to encourage public review of the electronically-available document. Comments were accepted during the 45-Comment Period, which ended on February 10, 2008. The Forest Service received four letters. One letter did not provide required information. However, comments contained in this letter were incorporated by reference in detail in one of the other three letters received (Letter 1), included in the 2008, FSEIS, Appendix I, Response to Comments. Comments address resource issues regarding hazard tree and snag analyses, large woody debris requirements, canopy cover and cumulative effects linked to CWHR 4 and 5 areas (e.g. old forest components) and impacts to old forest dependent-species such as the California spotted owl (Figure 1-6), the American marten (Figure 1-7) and the Pacific fisher (Figure 1-8).



**Figure 1-6.** Spotted Owl.



**Figure 1-7.** Pacific fisher.



**Figure 1-8.** American marten.

## 1.9 Issues

Issues are points of discussion, debate, or dispute about the potential environmental impacts of a proposed action. Hence, Forest Service and public-generated issues linked to the Watdog Project acted to influence not only the design of alternatives to the proposed action, but also the type of analysis indicators employed, the physical context (i.e., geographic scale), and temporal extent to frame the environmental consequences.

For the purposes of this analysis, issues were evaluated for significance or “relevancy” and non-significance. The relevant issues for the Watdog Project were derived from a variety of sources including: (1) Scoping comments (external), (2) those developed by the IDT through initial interdisciplinary processes and evaluation of data and information collected during the 2004 field season (internal), and (3) those developed in coordination with the Responsible Official.

To narrow the focus of the environmental analysis, the IDT focused on internal and external issues that provided measurable elements to the proposed action and emphasized the most important environmental effects. These are elements of the ecosystem that can be measured to indicate an increase or decrease in trends in ecosystem health. To compare these elements, indicators and appropriate measures were developed to compare the alternatives, and to provide a clear basis for a federal decision.

The Council Environmental Quality regulations provide procedural guidance on how to respond to non-significant issues. As directed, Federal Agencies should identify and eliminate from detailed study those issues which are not significant or which have been covered by prior environmental review. Non-significant issues are those that are:

- (1) already addressed by law, regulation, Forest Plan or other higher level decision;
- (2) beyond the scope of the purpose and need described in the NOI;
- (3) not connected to the proposed action;
- (4) conjectural and not supported by scientific or factual evidence; or
- (5) irrelevant to the decision to be made.

The issues, whether classified as either Relevant or Non-Significant, were evaluated and when appropriate addressed by standards and guidelines, mitigation measures or alternative design features.

The discussion below focuses on the key Relevant Issues, presented in an Issue/Discussion format including positions and values related to the project objectives, possible alternatives to consider, and environmental consequences that could result from a course of action.

### 1.9.1 Fuels and Fire Behavior

**Issue.** Fire historically played a critical role in shaping and maintaining healthy, resilient, and productive forest stands in and around the Project Area. Fire exclusion over the past century interrupted the role of fire and has contributed to development of stand structures and composition that are trending toward conditions that would result in large-scale crown fires.

Today, many forest stands in the Project Area are becoming over stocked with small trees and have high levels of dead fuels; conditions that would result in higher fire intensities in the event of a wildfire. High-intensity wildfire can result in severely burned areas that are outside historic norms, and pose significant risks to human life and property. Scoping raised disagreement over the extent of fuel treatment needed in the Project Area: some public comments indicated that fuel loadings have reached hazardous levels and can and should be treated at a high intensity, while other comments indicated fuels treatments are only needed in specific locations at lower intensities. Among those who indicated that treatments are needed, there is disagreement about methods to use, the priorities for treatment, and in what kinds of ecosystems to allow treatments.

Several different views related to fire and fuels behavior were identified through public involvement and scoping. Some public comments supported actively managing vegetation and fuels in the Watdog Project Area. Others raised concerns that the project as proposed will not reduce the potential for substantial adverse effects from a large wildfire in the area. These public comments indicated that the proposed project will not treat enough area to effectively reduce the spread of a potential wildfire. Commenters were also concerned that treatments will be ineffective and not remove enough fuels to reduce the potential for crown fires. Some comments indicated that, while the Watdog Project will provide some protection from a wildfire being carried into the adjacent watersheds, it will only have minimal effect on crown fire spread and fire severity. There were some comments that the project as proposed will not implement current laws/direction to the full extent possible.

Scoping uncovered a broad range of disagreement regarding how many acres should be treated and what level of intensity is needed to meet objectives for reducing the risk of large-scale crown fire spread. Many indicated that insufficient area would be treated by the proposed action, while others stated that the individual treatment prescriptions are not intensive enough to accomplish objectives for reducing wildfire spread and/or the intent of the HFQLG Act.

One comment indicated that prescribed fire should be used as the primary method to reduce fire hazard. Another view is that a variety of methods should be used, including mechanical methods such as timber harvest, brush removal, and small tree thinning (biomass removal). These views are related to the debate over whether fire surrogates (that is, mechanical treatments designed to create desired vegetation structures) can be used to effectively maintain and restore desired ecosystem conditions and functions.

Commenters favored establishment of some type of a network of “defensible fuel treatment areas” for fuels reduction. To address these comments about the effects of proposed treatments, the following indicators were developed: particulate matter, resistance to control, and fuels and fire behavior.

**Indicators.** Fire and fuels behavior as measured by; predicted mortality, flame length in feet, fire type, and crown base height in feet.

## 1.9.2 Landscape Structure

**Issue.** In general, comments addressing vegetation supported the Watdog Project as described in the proposed action. Several public comments suggested that more acres of group selection harvest should be implemented to address stand structure and forest health problems or to offset the costs of constructing DFPZs. Some specific comments addressed road treatments, species regeneration, and type of logging systems to be used. Other comments addressed diameter limits of trees, basal area within treatment units, and canopy cover limits. Along with the canopy cover comments there were some comments in support of more individual tree selection treatments.

To address these comments, the indicators were developed to measure the effects of the proposed treatments. Silvicultural prescriptions and canopy cover percentages were developed to be consistent with the amended Plumas National Forest Land and Resource Management Plan. Field inventories were conducted, data was analyzed, and the proposal for vegetation treatments was written. These treatments would be proposed throughout the DFPZs. There would be thinning from below to remove ladder fuels and crown or canopy fuels to increase ground to crown height, spacing between trees and spacing between tree crowns, and utilizing group selection to create size and structural diversity of the forest stand. Treatment prescriptions would call for removal of the smaller, suppressed, and intermediate-crown-class trees; removal of some co-dominant and dominant trees; and retention of the largest trees to achieve the target canopy cover or spacing guidelines.

Canopy cover is one method to determine 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. Canopy cover is often referred to as canopy closure or crown cover. Alternatives to the proposed action were developed to address internal and external issues.

**Indicators.** Measures to compare the differences in the landscape structure (which includes treatment types and canopy cover) will be addressed in this analysis in “Section 3.12: Vegetation” in Chapter 3 as species composition; forest health as measured by basal area and trees per acre or tree density; and stand structure as measure by tree size and CWHR Size Class 4 canopy cover.

### 1.9.3 Wildlife

**Issue.** Wildlife in the Watdog Project and adjacent area has been affected by natural and mechanical disturbances for more than one hundred years. One issue identified during scoping is that management activities have the potential to degrade wildlife habitat. Another view is that management activities can be used to maintain or improve species health, and that the proposed activities will not negatively impact California spotted owl or northern goshawk or other wildlife populations or habitat. Some comments indicated that assessing cumulative impacts by making a qualitative and quantitative impact assessment on how the proposed treatments may affect spotted owl habitat was the best method for comparing alternatives. Some comments suggested that an EIS would be the most appropriate documentation for the Watdog Project due to the potential cumulative impacts on California spotted owls. Some comments were interested in an alternative that fully implements the 2001 SNFPA FEIS ROD. There were concerns that the removal of trees 30 inches dbh and greater may affect spotted owl populations. Another concern is that not treating nesting and foraging habitat will undermine the effectiveness of the DFPZs.

**Indicators.** To address wildlife concerns, acres of California spotted owl and northern goshawk nesting and foraging habitat affected and percent retained would be used as measures. Additionally, acres of forest carnivore den/rest habitat and forage/travel habitat affected and percent retained would be used as measures. All species with a “may affect” determination will be addressed in the analysis in “Section 3.13: Wildlife and Fish” in Chapter 3. The remaining species and Management Indicator Species / Neotropical Migratory Bird habitat effects are found in the Wildlife and Fish Biological Assessment / Biological Evaluation available upon request.

### 1.9.4 Post-Treatment Vegetative Response, Maintenance, and Monitoring

**Issue.** One commenter expressed concern that the proposed fuel reduction and group selection treatments would increase light availability and disturb the soil surface, creating ideal conditions for the invasion of noxious, invasive, and undesired plant species.

The commenter believes that the successful establishment of this vegetation could result in high fuel levels within a few years of project implementation, eventually leading to use of a chemical-dependent maintenance strategy.

**Indicators.** To address the concerns expressed regarding noxious weed spread and competing vegetation the noxious weed risk assessment and competing vegetation will be discussed as regards DFPZ maintenance in “Section 3.12: Vegetation” and noxious weed maintenance in “Section 3.3: “Botany and Noxious Weeds,” both in Chapter 3.

### 1.9.5 Cost Effectiveness and Community Stability

**Issue.** A public comment expressed concern that the project as proposed would not meet the intent of the HFQLG Act, and that we are not proposing enough treatments to balance the cost of doing business.

**Indicators.** Cost effectiveness would be measured as net harvest revenues from the sawlog and biomass values (i.e., revenues generated from the timber sale); non-harvest costs would also be measured as the costs to treat the DFPZ, such as mastication, hand piling, etc. in other words, costs associated with the service contract; net project value would be taking both the revenues and costs into consideration. Community stability is addressed in “Section 3.4: Economics” and would be measured by the number of direct and indirect jobs, total employee related income, products in the form of biomass tons and sawlog volumes.

### 1.9.6 Summary of Issues

Issue categories below are a result of the original scoping conducted during the environmental analysis process, beginning in 2002 through the April 3, 2008 Watdog Final Supplemental EIS. The categories of aforementioned issues are summarized in table 1-1 below. Table 1-1 displays the public comments that were brought forward as Relevant Issues organized by Issue Category. (See table 1-1 next page.)

**Table 1-1.** Issue categories addressed in the Watdog Project Final Supplemental Environmental Impact Statement.

Issue Category	Summary of Comments
Fuels & Fire Behavior	The need to remove trees greater than 20 inches in the Sierra Nevada region is disputed by fire scientists.
	Provide estimates of predicted flame length, fire resiliency, mortality of dominant and co-dominant trees, and probability of initiation of crown fire.
	The Forest Service should disclose the rationale for logging in old forest areas versus near communities. The Forest Service should also disclose whether all treatments near homes and communities during the HFQLG Pilot Project timeframe of 2009 would be completed.
Landscape Structure	The proposed action proposes less than the maximum acres of group selection recommended by the HFQLG Act.
	More groups should be implemented in project area to address stand structure and forest health problems outside DFPZ network.
	Disclose the canopy cover limit that will be applied within each treatment unit and the amount by which canopy cover can be reduced within each unit. If the limit will be less than 50 percent, the Forest Service should explain why the 50 percent standard cannot be met, as required by the 2004 ROD (p. 50–51). This explanation should include documented fire behavior research to support conclusions regarding crown thinning and the need to log trees greater than 20 inches.
	Implementation of fuel reduction projects is directly correlated with long-term maintenance; therefore the EIS must include plans for monitoring and maintenance of DFPZs and group selection clear cuts as part of this project.
Wildlife	There is strong evidence that logging pursuant to the 2004 ROD increases the risks to the marten's population, threatening the marten's viability and distribution and potentially leading to local extirpation.
	Consider one or more alternatives to ensure high quality nesting and foraging habitat for goshawk.
	Lowering canopy cover below 40 percent will significantly impact the Northern goshawk, possibly leading to a trend towards federal listing and significant impacts on the environment, requiring an EIS.
	The Forest Service has failed to demonstrate in the FEIS that logging trees greater than 20 inches in diameter or reducing canopy cover to below 50 percent is necessary to reduce the risk of catastrophic fire. I suggest analyzing a 50 percent canopy cover prescription for CWHR 5 stands.
	The proposed action proposes to reduce canopy cover to 40 percent in CWHR 5 stands. Decisions to separate canopies in stands of large trees (e.g., CWHR 5 and 6) to below 50 percent closure seem to be regarded as invitations to litigation and listing petitions for those persons and organizations opposed to the HFQLG Pilot Project and/or to logging on National Forest System lands.
	Environmental analysis [should] make a qualitative and quantitative impact assessment of how the proposed treatments may affect spotted owl use.
Post-treatment Vegetative Response, Maintenance and Monitoring	Poor design features for fuel reduction and group selection timber harvest projects often lead to future problems where vegetation will vigorously respond to disturbance and increased light availability, creating ideal conditions for the invasion of noxious and invasive plant species and undesired natives, causing a dependence on chemical treatment for maintenance of DFPZs. The Forest should consider a maintenance strategy founded on prescribed burning or other non-chemical means, into the proposed action plan, and develop a non-chemical plan to address vegetative controls of both noxious and invasive weeds that often occur along roadsides. The proposed action fails to include a plan to address noxious weed.
Cost Effectiveness & Community Stability	Group selection and individual tree selection will provide more volume per acre and larger, more valuable trees to help offset costs of constructing DFPZs
	Why does the project (and 2002–2003 Program of Work) call for fewer acres of group selection than the original Implementation Plan for the Pilot Project?