

**Fire Management Plan  
Environmental Assessment  
Redwood National and State Parks  
Humboldt and Del Norte Counties, California**

This Finding of No Significant Impact (FONSI) should be attached to the *Fire Management Plan, Environmental Assessment, Redwood National and State Parks, Humboldt and Del Norte Counties, California*, dated November 2004 (EA). This FONSI together with the EA constitute a complete record of the conservation planning and environmental impact analysis process for this proposal. The Fire Management Plan provides the operational guidance for conducting fire management activities.

Under National Park Service (NPS) fire management planning policies and guidelines, Redwood National and State Parks (RNSP) are divided into six fire management units (FMUs) based on vegetation, geography, and political boundaries: coniferous forest, coastal, Little Bald Hills, Bald Hills, Wildland Urban Interface (WUI), and the State Parks. For five of the six fire management units, the EA considered two alternatives, a no action alternative and a proposed action. The EA considered a single proposed action for the California State Parks. Fire suppression in the state parks is the responsibility of the California Department of Forestry and Fire Protection (CDF), and is not specifically addressed in the Fire Management Plan. The plan is consistent to the greatest extent possible with CDF policies and regulations.

The NPS will implement as its selected action in each of the six fire management units the proposed action/environmentally preferred alternative described in the *Fire Management Plan, Environmental Assessment, Redwood National and State Parks, Humboldt and Del Norte Counties, California*.

**Purpose and Need for Fire Management in Redwood National and State Parks**

The purpose of managing fire is to reduce the threat from wildfire to human life and property both within and outside park boundaries and to the parks' natural and cultural resources. One of the primary purposes of fire management is to develop an overall approach that focuses on the safety of firefighters and the public. To reduce threats from wildfire to property and resources, sensitive resources have been identified and mapped and specific protection strategies have been developed; hazardous fuel buildups will be reduced around sensitive resources and park buildings and in areas where a fire could either enter the parks or move beyond park boundaries; suppression tools such as water sources and roads have been identified and developed; and tactics have been planned for safe and efficient actions in case of wildfire.

Another purpose of fire management is to preserve natural and cultural resources that evolved or developed in the presence of fire. Fire is needed as a tool to restore cultural landscapes that were created by intentional ignitions and to restore native plant communities in grasslands that have been invaded by non-native plants. In some areas of the parks, intentional ignitions set by people have created distinct landscapes called cultural landscapes. Fire can be used to remove non-native plants that compete with native plants as one element of a program to restore native plants.

A history of recent fire suppression, along with the development of effective fire suppression techniques, has interrupted the fire regimes that developed in the different RNSP vegetation types and ecosystems for many centuries. Fire regimes will be studied to determine the extent to which fire should be restored in RNSP ecosystems and how this will be accomplished.

### **Selected Action**

There are no changes in actions, mitigations, or other key elements of the proposed action described in the EA (Alternative 2). There was minimal public interest expressed during the planning and minimal public comment on the proposal, and other agencies consulted supported the actions and mitigations proposed. The details of the final selected action are summarized below.

All fire management activities in RNSP will be conducted with full consideration of actions related to human health and safety, monitoring of natural and cultural resources before and after prescribed fires and wildfires, public information and communication, preplanning for wildfire suppression and prescribed fires, use of minimum impact suppression tactics (MIST), and post-fire rehabilitation or restoration (BAER) where appropriate. Natural and cultural resources will be protected using specific measures to protect air quality, water quality and soils, sensitive plants and wildlife, and cultural resources. The EA contains additional descriptions of the mitigation and protection measures for specific resources including sensitive wildlife species, cultural resources, and best management practices to protect water quality, soils, and threatened fish species.

*Preparation of Water Sources and Access Routes for Suppression*—Water sources will be prepared by clearing vegetation around existing man-made ponds or installing holding tanks. Holding tanks will be portable 2,500 gallon black plastic water tanks that are filled from adjacent headwater streams, by rainwater, or by water trucks. Roads will be prepared for access by fire trucks using the same techniques used for general road maintenance, including clearing down trees, limbs, and brush along the road edges, ensuring that drainage systems are functioning properly, and repairing slumps and road surfaces.

*Prescribed Fire Preparations*—Handlines 3-to-4-feet wide will be constructed around the perimeters of the 28 prescribed fire subunits by removing all vegetation around the perimeter down to bare mineral soil where there are no roads to serve as firelines or where crews will have difficulty holding a fire within the unit boundaries. Fine fuels and low vegetation may be cut with mowers or weed eaters in a strip 8-10 feet wide to provide a holding line. Some subunits will be protected by hose lays (lengths of fire hose that are positioned before a prescribed burn is ignited) to provide a water source where additional control is needed and no road access is available.

*Air Quality Permits*—The NPS will obtain a burn permit and conduct prescribed fires or pile burns only on “burn days” under permit conditions established by the North Coast Unified Air Quality Management District (AQMD).

*Hazardous Fuel Reduction and Shaded Fuel Breaks*—Three new shaded fuel breaks will be constructed at Berry Glen, Wolf Creek, and Holter Ridge (East Side) and the existing fuel break at Hiouchi will be maintained. In shaded fuel breaks, understory vegetation will be removed from an area 50 to 100 feet wide, with emphasis on trees 12 inches in diameter and smaller, leaving at least 60 percent canopy closure. Large woody debris and standing snags will be left in place for wildlife habitat. Fine fuels and downed limbs will be removed annually. Outside of shaded fuel breaks, hazardous fuel reduction will focus on removal of dead and down fuels, small stands of mostly Douglas-fir and dense thickets of tan oak 12 inches in diameter and smaller, and lower limbs of trees greater than 12 inches in diameter, leaving at least 60 percent canopy closure. Cut vegetation will be piled and burned on site where feasible and hauled offsite if needed to reduce ground fuel loading or maintain visual quality. Pile burn sites will be rehabilitated by raking local leaf litter onto the burned spot.

*Water quality and soil protection*—Best management practices (BMPs) will be used to protect water quality and soils to avoid or minimize sediment delivery into streams. These BMPs are the same as used to protect streams where fish occur and include waterbars, check dams, silt screens, construction only during dry periods or when the soils are not saturated, no refueling of construction equipment within 150 feet of a stream, a fuel spill prevention plan for fueling and on-site equipment, and use of weed-free straw on exposed soils until revegetation is complete.

Fire prescriptions will be established to burn at a temperature high enough to reduce fuels but not hot enough to sterilize soils or increase the potential for erosion. Roads will be used for fire breaks wherever possible to reduce new impacts to soils and limit the overall disturbance. Handlines will be sited so that soils can support vegetation after the disturbance and/or fire. Topsoil that was scraped off to construct handlines will be pushed back onto the handline. Camp and staging areas will be located in previously disturbed areas such as logging landings. Compacted soils on handlines and at camps located in relatively undisturbed areas will be broken up with hand tools to allow water penetration and revegetation.

*Sensitive, threatened, and endangered species protection measures*—The NPS has developed guidelines to reduce or eliminate potential adverse effects on sensitive species from wildfires. The guidelines are not proposed actions because the unpredictability of wildfires and associated threats to human safety and significant resources could require suppression actions that are not entirely consistent with the guidelines. Therefore, all specific wildfire suppression tactics and activities will be analyzed through emergency consultation with the US Fish and Wildlife Service (USFWS) and/or NOAA Fisheries after the fire is suppressed.

For planned fire management actions, park botanists will conduct surveys for rare plants where firelines will be constructed or where vegetation will be cut, piled and burned for hazard fuel reduction or to establish shaded fuel breaks. Handlines or burn piles will be moved to avoid individual plants if possible, especially during flowering. Any rare plants found within prescribed fire subunits will be marked and protected from disturbance with firelines.

The term “restriction period” refers to the time of year and the duration of time during which no loud noise, smoke from prescribed fires or burn piles, or vegetation removal is permitted in a given area where sensitive or threatened bird species might be adversely affected by noise and disturbance, smoke, or habitat destruction. Fire management activities are subject to site- and species-specific restriction periods that are described in the EA and detailed in the biological assessment submitted by the NPS to the USFWS, which concurred with the NPS determination that the selected action may affect but is not likely to adversely affect listed threatened wildlife species, provided restriction periods and other mitigations are observed.

Snags larger than 36 inches in diameter and downed logs greater than 36 inches in diameter and 10 feet in length inside prescribed fire perimeters will be protected with firelines if at all possible. All attempts will be made to retain Douglas-fir trees less than 12 inches in diameter in mechanical fuel reduction projects and shaded fuel breaks if the trees have broken or deformed tops because these trees may develop into spotted owl nest or roost trees in the future.

*Cultural resource protection measures*—The selected action will be implemented in compliance with Section 106 of the National Historic Preservation Act using the 1995 Servicewide Programmatic Agreement among the NPS, the National Conference of State Historic Preservation Officers, and the Advisory Council on Historic Preservation (PA). If a project may adversely affect a cultural resource or if the project is located within the boundary of the Yurok

Reservation, then the 1995 PA will not apply and standard procedures for compliance with Section 106 of the National Historic Preservation Act (36 CFR 800) will be followed and consultation with the SHPO and/or THPO will be required.

Direct adverse effects on cultural resources from planned fire management actions will be avoided through identifying the resources prior to disturbance and protecting the resources. Fuels will be reduced in the vicinity of historic structures, and fire lines and 40-foot-wide defensible spaces will be prepared around historic structures. In all locations where actions are planned that will disturb soils, qualified cultural resource specialists will conduct surveys prior to disturbance and will direct crews to construct fire lines or establish burn piles in locations that will avoid cultural resources. Vegetation will not be removed if it contributes to a cultural landscape, and affiliated Tribes will be consulted regarding ethnographic resources that could be affected by a proposed project.

*Fire Effects Monitoring*—Research on fire history will be conducted in the coniferous forest, Bald Hills, Little Bald Hills, and coastal grasslands. Monitoring of fire effects will be conducted before and after all prescribed fires.

*Coniferous Forest Fire Management Unit*—The selected action includes mechanical reduction of hazardous fuels, primarily non-native Monterey pine, on about 300 acres in the Tom McDonald watershed, and creation of a shaded fuel break along 15 miles of existing roads beginning at the CDF Elk Camp Fire Station and extending northwest along Bald Hills Road to Holter Ridge Road, north along Holter Ridge Road to the B-Line, and then west along the B-Line to the US Highway 101 park bypass. Water tanks will be placed along roads at the A-9 deck (rainwater filled), West Side Access Road (Mile 14, stream filled), Bridge Creek Ridge Road (Mile 3.5, rainwater), at the intersection of Holter Ridge and Geneva Roads (rainwater), on the A-170 Road, and the Tall Trees Access Road (C-Line Mile 2, stream filled). Vegetation including trees up to 14 inches in diameter will be removed from about 0.5 acre on one edge of the man-made M-Line pond for helicopter bucket operations. Holter Ridge Road, the A-170, the A-121, the West Side Access Road, the C-6-2, the G-Line Deck, the M-2.5, and the Y-Line Rock Pit Road will be prepared for access by fire suppression equipment and to serve as fire breaks.

*Coastal Fire Management Unit*—Prescribed fire subunits will be established at DeMartin Prairie (38 acres), Flint Ridge (13 acres), and Major Creek (7 acres), and fuels around the perimeter of the DeMartin Prairie and Major Creek subunits will be reduced by cutting, piling, and burning of shrubs.

*Little Bald Hills Fire Management Unit*—A 50-acre prescribed fire subunit will be established on a ridge top on both sides of the Little Bald Hills Trail. Fuels will be mechanically thinned around the edge of the burn subunit. Within the subunit, dense fuels will be thinned around mature trees on half the subunit and left unthinned in the other half to test the effectiveness of fuel reduction for protecting mature trees.

*Bald Hills Fire Management Unit*—The selected action includes prescribed fire in 24 subunits, mechanical reduction of fuels around historic structures and prescribed fire subunits, and preparation of water sources and roads.

Mechanical fuel reduction projects will be carried out in a total of 43 acres on the edges of Upper Elk Camp (7 acres), Upper Dolason (18 acres), and Lower Airstrip (18 acres in two patches) prescribed fire subunits. Fuels will be reduced prior to an understory burn in a 30-acre strip of

second growth Douglas-fir between Airstrip Prairie, the Dolason Trailhead, the Bald Hills Road, and the K&K Road, and in an area uphill of the Airstrip prescribed fire unit

Grass and fine fuels within 40 feet of historic structures will be mowed annually and handline constructed around the following historic structures:

- Elk Camp barn (Lower Elk Camp prescribed fire subunit)
- Lane Ranch house and garage (Lower Elk Camp prescribed fire subunit)
- Dolason barn (Dolason prescribed fire subunit)
- Lyons Ranch barn and bunkhouse (between Upper Lyons and Lyons Ranch prescribed fire subunit)
- Dooleyville line shack (Dooleyville prescribed fire subunit)
- Long Ridge sheep shed (Mainstem prescribed fire subunit)
- Coyote Creek barn (Mainstem prescribed fire subunit)
- Coyote Creek cabin (Coyote Creek A prescribed fire subunit)

Fuels will be mechanically reduced in the vicinity of four historic structures:

- Coyote Creek Barn, 5 acres (Mainstem prescribed fire unit)
- Coyote Creek Cabin, 1 acre (Coyote Creek prescribed fire unit)
- Elk Camp Housing, 11 acres (Lower Elk Camp prescribed fire unit)
- Lower Lyons Ranch, 8 acres, and Upper Lyons Ranch, 2 acres (between Lyons Ranch and Upper Lyons prescribed fire units)

Three existing man-made ponds will be cleared of brush for access by fire suppression vehicles in the Upper Elk Camp prescribed fire unit, Lower Elk Camp prescribed fire unit, and Coyote Creek prescribed fire unit. Stream-filled holding tanks will be installed at K&K Road (Mile 2) and at the intersection of Ranch Road and Mid Basin East Road in the Coyote Creek drainage. Bald Hills Road; Elk Camp Barn Road; Maneze Prairie Road; Lyons Ranch Road; Schoolhouse Peak Lookout Road; Ranch Road; and Rock Fork Road will be prepared for access by fire equipment and personnel.

*Wildland Urban Interface Fire Management Unit*—A new shaded fuel break will be created near Berry Glen and the existing shaded fuel break at Hiouchi will be maintained. Excess fuels will be removed along the Wolf Creek road. Access routes to structures at risk and weight limits on bridges that will be used by fire equipment will be identified. LPG tanks, other flammable materials, hazardous materials, and power lines will be located and mapped. Potential water sources will be located and their capacity determined. Evacuation routes will be identified and prepared. Defensible spaces 30 feet wide will be maintained or created around structures. Plans and information will be shared with other fire management agencies.

*California State Parks Fire Management Unit*—In the state parks, CDF will take the lead on wildfire suppression and DPR will take the lead on planning and conducting prescribed fire in Boyes Prairie in Prairie Creek Redwoods State Park.

### **Environmentally Preferred Alternative**

The environmentally preferred alternative is the action that best promotes the environmental policies outlined in the National Environmental Policy Act of 1969 (NEPA). These policies include fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations; attaining the widest range of beneficial uses of the environment without degradation or risk of health or safety; and preserving important historic, cultural, and natural aspects of our national heritage.

The environmentally preferred alternative is the selected action, which includes the proposed action in six FMUs and the actions common to all alternatives as described in the EA. Together, these actions provide the greatest long-term protection to significant park resources including old growth redwood forests; streams and wetlands; threatened and endangered species that occupy the forests and streams; and cultural resources that are listed on or eligible for listing on the National Register of Historic Places. These actions have some direct adverse effects, primarily from smoke, soil disturbance for firelines, burned vegetation associated with prescribed fire, and vegetation removed to reduce fuel levels, but the adverse effects are short-term and localized. Timber harvest prior to park establishment and expansion and the long-term effect of fire suppression has been to allow fuels in some areas of the parks to build up to levels that will create an intense fire if a wildfire ignites. Although suppression of wildfires will continue under the selected action, the selected action will provide the best protection from wildfires for park resources and lands outside park boundaries by mechanically reducing fuels where prescribed fires cannot be used because fuel loads are currently too high or where a wildfire will move quickly into or out of the parks before an effective suppression effort can be initiated. Prescribed fire will be used to reduce fuels by pile burning but prescribed fire will be used primarily to restore a major ecological process in plant communities that evolved with more frequent and less intense fires. Prescribed fire in the Bald Hills will also contribute to restoration of the cultural landscape created over centuries from intentional burning by local American Indians, as well as begin to restore populations of plants traditionally used by American Indians and other native plant species.

The no action alternative is primarily full suppression throughout RNSP. Full suppression is not an environmentally preferred alternative because it would not reduce the risk of a major or catastrophic wildfire, would not allow management of the parks as an interrelated complex of natural and cultural resources, and would not restore ecological processes with which park vegetation communities evolved. The following actions that are included in the proposed alternative will not be undertaken under a full suppression alternative:

- mechanical reduction of fuels to reduce the hazard from excessive fuel build-up;
- preparation of water sources or strategic roads to be used by large equipment on short notice;
- prescribed fire in ecological communities and vegetation types where fire was an ecological process that shaped the community structure and composition;
- prescribed fire as a cultural or historical component needed to sustain important cultural traditions and food sources.

### **Other Alternatives Considered**

*Bald Hills Shaded Fuel Break*—A shaded fuel break in the Bald Hills along the park boundary from Schoolhouse Peak to Williams Ridge was eliminated from further consideration because the cost of the project and the lack of available personnel outweighed the protection afforded to park resources and to adjacent private lands from reducing fuels in this area.

*Xowannutuk Old Growth Forest Prescribed Fire*—RNSP forest ecologists and vegetation management staff considered establishing several experimental plots in old growth forest stands in the 20-acre Xowannutuk prescribed fire unit in the Redwood Creek watershed to determine the effects of prescribed fire in old growth forest. After analyses of the effects of a wildfire in 2003 are completed, park vegetation management specialists will reconsider the potential for conducting prescribed burns in the Xowannutuk unit.

*Little Bald Hills Gulch Prescribed Fire Subunit*—A prescribed fire subunit was proposed in 20-30 acres of chaparral located in the southwest corner of the Little Bald Hills. This proposal was eliminated from current consideration because of lack of funds and personnel.

*Little Bald Hills Camp Mechanical Fuel Reduction*—A proposal to mechanically reduce fuels around the Little Bald Hills horse camp and on the east side of the Little Bald Hills in the knobcone pine forest was eliminated from consideration in the current Fire Management Plan because of lack of funds and personnel.

*Ossagon Prairie Restoration*—Prescribed fire would be one potential management tool as part of a larger program at Ossagon Prairie in Prairie Creek Redwoods State Park to restore cultural landscapes associated with fire and to enhance populations of plant materials used for traditional cultural activities by the local American Indians. This project will be planned and implemented through a separate planning process.

### **Consultation and Public Review**

On March 3, 2004, the California Coast Provincial Advisory Committee (PAC), a federally chartered group that provides coordination, information and advice to agencies and entities managing resources along the northwest coast of California, met at park offices in Orick. The proposed fire management actions were outlined for the PAC during a public meeting that was noticed in the Federal Register. No major concerns were raised about fire management proposals included in the selected action.

On March 20 and 21, 2004, the NPS published legal notices in the daily local newspapers of record, the *Eureka Times-Standard* (Humboldt County) and *Crescent City Daily Triplicate* (Del Norte County), inviting comments on the revision of the RNSP Fire Management Plan. The notice described the range of fire management actions to be considered in the plan as appropriate wildland fire suppression response, proposed hazardous fuels reduction projects, and an outline of prescribed fire activities. No responses to the notices were received.

The EA and Fire Management Plan were released for public review on December 17, 2004 and were available for review and comment through February 4, 2005. Compact disks were mailed to 49 local elected officials, government agencies, organizations, and individuals in Del Norte and Humboldt Counties. An additional 14 people received letters that a copy of plan was available upon request. Paper copies were sent to four local libraries and were available at park offices in Crescent City and Orick, and the main park visitor center in Orick. The document was not available on the Internet because the file was too big to be downloaded easily on most home computers. A press release was sent to local and regional print and radio media, as well as others on the parks' electronic mail list. The *Eureka Times-Standard*, the daily newspaper of record in Humboldt County, printed an article on page 2 on January 4, 2005, describing the proposal and an editorial on January 7 complimenting the park on the "correct course on [the] fire plan."

Three comments were received on the EA. One comment opposed the use of fire as a management tool because it destroys forests and grasslands, and removes dead plant material that would otherwise decompose and allow nutrients to be recycled into the plant, animal, fungal, and bacterial communities. The NPS believes that prescribed fire is an appropriate management tool for maintaining the species composition and distribution of the original vegetation community and for reestablishing a practice associated with local American Indian traditions and early settlement. Prescribed fire will not be used in the moist coniferous forests that remain in their original condition, e.g. not clear-cut. Prescribed fire will be used primarily in grasslands in the Bald Hills and Idaho fescue grasslands in the Little Bald Hills. In the Bald Hills grasslands,

research has shown that prescribed fire encourages increased abundance of native plants that have been crowded out by non-native species. Prescribed fire in the oak woodlands has been determined to be the best way to reduce the populations of small Douglas-fir that are invading these woodlands and reducing the abundance and distribution of Oregon white oak and the associated native understory plants. Prescribed fires are also being used to maintain the landscape created by the local American Indians and early ranchers through the use of fire and that is now considered to be a significant cultural resource. Prescribed fire will also be used to burn piles of brush that will be removed to reduce fuels and the threat of wildfire. The threat of unnaturally severe wildfires in many parts of the parks has increased after unmanaged regrowth of logged forests and a policy of fire suppression. In all areas where prescribed fire will be used and fuels reduced, no standing trees greater than 12 inches in diameter will be cut, and snags larger than 36 inches in diameter and downed logs greater than 36 inches in diameter and 10 feet in length on the edges of prairies or within oak woodlands will be protected. The amount of acreage burned under prescription in any one burning season is generally less than 2,000 acres.

A second comment supported the use of prescribed fire and reduction of hazard fuels but questioned the assumptions for using prescribed fire to restore cultural landscapes. Consultations with local American Indians and anthropological research confirms that the Indians and early ranchers in the Bald Hills intentionally set fires for a variety of reasons, and the existing landscape is partially a result of those fires.

One additional comment supported the suite of proposed fire management options (wildfire suppression, prescribed fire, fuel reduction) as appropriate for the size and conditions in the parks.

#### **Endangered Species and Cultural Resource Consultations**

On June 16, 2004, the NPS initiated consultation on the fire management plan with the California State Historic Preservation Officer (SHPO) and the Yurok Tribe Historic Preservation Officer under Section 106 of the National Historic Preservation Act (35 CFR 800) and under the 1995 Programmatic Agreement Among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, Section V. The SHPO did not comment on the plan but is aware of the activities described in the selected action. The majority of proposed fire management activities that have the potential to affect historic properties have been reviewed and approved by the SHPO as the 1995 *Redwood National Park Fire Management Plan* was implemented. As elements of the selected action that have the potential to affect historic properties are scheduled for implementation, additional documentation will be submitted to the SHPO as required.

On July 1, 2004, the NPS initiated government-to-government consultation on the fire management plan with the Big Lagoon Rancheria, Elk Valley Rancheria, Hoopa Valley Tribe, Resighini Rancheria, Smith River Rancheria, Tolowa Nation, Trinidad Rancheria, and the Yurok Tribe. The Yurok Tribe concurred with the NPS determination that No Adverse Effect to historic properties is expected from the selected action described as the proposed action in the EA.

On September 29, 2004, the NPS submitted a biological assessment on the potential effects of fire management plan activities on listed, proposed, and candidate threatened and endangered plant and wildlife species to the Arcata Fish and Wildlife Office of the USFWS for informal consultation under Section 7 of the Endangered Species Act of 1973, as amended. In a memorandum dated October 25, 2004, file number 1-14-2005-2389, the USFWS concurred with the NPS determination that the fire management plan activities will not affect the Oregon silverspot butterfly, bald eagle, or critical habitat for marbled murrelet. The USFWS also

concluded with the NPS determination that the proposed action may affect but is not likely to adversely affect the northern spotted owl and marbled murrelet, and may affect and is likely to beneficially affect McDonald rock cress and western lily. The NPS did not request incidental take for actions associated with planned fire management and none was authorized. Individual fire management projects or activities might be subject to additional consultation if any project has the potential to affect a listed or proposed species, or designated critical habitat.

The NPS submitted a letter and biological assessment to NOAA Fisheries on October 8, 2004, for programmatic informal consultation and informal conference under Section 7 of the ESA. NOAA Fisheries concurred on January 21, 2005 (151422SWR04AR9140:BW) with the NPS determination that the activities in the FMP may affect but are not likely to adversely affect the Southern Oregon/Northern California Coast coho salmon (SONCC), California Coastal Chinook salmon, and Northern California steelhead, and SONCC coho salmon designated critical habitat. NOAA Fisheries also concluded that the FMP activities may affect but are not likely to adversely affect the proposed critical habitats of the California Coastal Chinook salmon and Northern California steelhead. Further consultation may be required if new information reveals effects of the action that may affect listed salmonids or their critical habitats in a new manner or an extent not previously considered, FMP activities are subsequently modified in a manner that causes an effect to listed salmonids or their critical habitats, or a new species is listed or critical habitat designated that may be affected by FMP activities, other than the proposed critical habitats considered in the informal conference.

### **California Coastal Zone**

A federal negative determination of effect on the Coastal Zone will be submitted for California Coastal Commission review during the planning for fuel reduction followed by prescribed fires in three coastal prairies. No other fire management actions are planned in the Coastal Zone.

### **Why the Selected Action Will Not Have a Significant Effect on the Environment**

As documented in the EA and summarized below, the NPS has determined that the selected action will not have significant adverse effects on park resources or values or visitor use and experience, either as individual actions or cumulatively.

*Minimum Impact Suppression Tactics*—Wildfire suppression actions in the national park will be conducted using MIST to minimize adverse effects to resources and avoid irreversible damage once the fire emergency is over. MIST actions specific to RNSP are directed at protecting the significant resources that are unique to the parks. Old growth redwood trees are the most important of these resources and will be protected in two ways from wildfires. If a ground fire enters old growth forest, a fireline will be constructed around the base of trees, and litter and other dense fuels will be removed. If an individual tree is on fire, the tree will not be cut unless there is a significant risk to human safety or property. The tree will be monitored in case the fire spreads to other nearby trees or threatens to ignite a larger area. If the fire threatens to spread to adjacent trees, fire managers will attempt to have aircraft perform bucket drops on the individual tree. Cutting a large tree will be the last resort in a fire emergency.

Other MIST actions will have short-term localized adverse effects on vegetation and soils, but the tactics will have fewer adverse effects than aggressive suppression techniques intended to suppress the fire in the least amount of time within the smallest perimeter possible. MIST are developed for the specific resources of the park and are implemented in a manner intended to reduce the short- and long-term adverse effects of suppression.

*Air Quality*—Smoke from prescribed fires, including pile burning, and emissions from vehicles and equipment used for fire management will reduce visibility and overall air quality in the vicinity of these activities. These effects will be adverse, generally localized, temporary, and will range from negligible to moderate. Moderate adverse effects will be very localized at the sites of prescribed fires and short-term, on the order of less than 24 hours. After a prescribed fire is suppressed, air quality in the parks returns to very good to excellent condition. Adverse effects on air quality from prescribed fires primarily affect visibility and human health and are minor to moderate because the fires are permitted only when the North Coast Unified Air Quality Management District (AQMD) believes that adverse effects of smoke on human health can be minimized. Reduced visibility from smoke that drifts across roads will be mitigated by traffic controls during prescribed fires and in case of wildfire suppression.

*Cumulative Effects on Air Quality*— Air quality in the parks and the region will continue to be very good to excellent over the long-term. The AQMD coordinates planned ignitions in Humboldt, Del Norte, and Trinity Counties to minimize cumulative adverse smoke effects on sensitive areas (local communities and highways). The cumulative effect on air quality in the parks from prescribed fires conducted on adjacent private timber lands to reduce logging slash will be short-term, adverse, localized and could range from negligible to moderate depending on wind conditions and how close the prescribed fires are to park boundaries.

*Effects on Watersheds, Soils, Water Quality, Floodplains and Wetlands*— Best management practices typically prescribed to avoid or reduce erosion and sedimentation of streams will be used during maintenance and preparation of fire access roads, including culvert replacement, and other ground-disturbing activities. Most prescribed fires in RNSP will occur in headwaters of streams in the Bald Hills and will have negligible effects on water quality in Redwood Creek and its tributaries from soil erosion because of the distance from the creek and the small area of bare soils that will result. Pile burning will have negligible effects on water quality and soils because piles will be small and located in flat areas away from streams or high in the watersheds. The effects on soils, water quality, floodplains, and wetlands from planned fire management activities in the short-term will be adverse, localized, minor and direct for soils, and negligible and indirect for water quality, floodplains, and wetlands. In the long-term, the effects of planned fire activities on soils, water quality, floodplains, and wetlands will be beneficial and negligible to moderate, to the extent that planned fire management activities prevent or reduce the intensity or extent of catastrophic wildfires.

*Cumulative Effects on Watersheds, Soils, Water Quality, Floodplains, and Wetlands*— Cumulative effects on soils, watersheds, floodplains, and riparian wetlands in the parks have been long-term and significantly adverse, especially in the 50,000 acres that were logged in the Redwood Creek watershed prior to park establishment and expansion, and in the Klamath River upstream of the parks from intensive industrial logging and dams. Adverse effects on the Redwood Creek watershed from past and current timber harvest operations are being reduced through the watershed restoration program in the parks and the application of California Forest Practices Act regulations on private timber lands upstream of the parks. The long-term effects of regulatory approaches to improving water quality and managing the water volumes in the Klamath are unknown but annual short-term effects on water quality depend on annual rainfall in the Klamath basin. The RNSP watershed restoration program has short-term minor to moderate adverse effects on water quality and riparian wetlands for the first few seasons following restoration. The NPS management program for second growth forests that regrow after logging without silvicultural management will have negligible to minor short-term adverse effects on soils and negligible indirect effects on water quality from ground disturbance associated with removal of small trees. The long-term cumulative benefits to soils and vegetation from watershed

restoration and second growth forest management in RNSP will be significant but not detectable over the life of this fire management plan. The additional effects on soils, watersheds, water quality, floodplains, and riparian wetlands from soil erosion associated with proposed fire management actions will be undetectable in comparison with existing conditions resulting from timber harvest and associated road building.

*Effects on Vegetation*—Planned fire management activities will have negligible to moderate adverse effects to vegetation from mechanical fuel reduction (73 acres in the Bald Hills, 27 acres in the vicinity of historic structures, 300 acres of non-native Monterey pine, about 220 acres for shaded fuel breaks) and construction of fire lines (6.1 acres mostly in the Bald Hills). The effects will be localized but will recur on an annual basis around historic structures and on a 2-5 year rotation for the prescribed fire subunits. All vegetation that will be removed under the proposed fire management actions is common in the parks and the region, is routinely removed or cut annually for general maintenance of roads, trails, and facilities, and has generally been previously affected by timber harvest and associated road construction. Soils and vegetation in the prescribed fire units in the Bald Hills have been affected by prescribed fire since 1992.

In the long-term, the effect on vegetation will be a beneficial and minor indirect effect because the risk of catastrophic fire would be lessened by planned fire management activities, with greater benefits within the prescribed fire subunits. The long-term effect of fire management on vegetation under the selected action will be a minor to moderate benefit, depending on the degree to which native plant species and the original vegetation communities of the parks are preserved.

*Cumulative Effects on Vegetation*—Cumulative effects on vegetation in the parks and the surrounding region are related to current logging and associated road construction, and residential, commercial, industrial, and transportation development. The most significant cumulative effect on vegetation in RNSP was the logging of 50,000 acres of ancient coniferous forest, mostly in the Redwood Creek watershed, prior to park establishment and expansion. This significant adverse effect will be mitigated through proposed management of the resulting second growth forests but the benefit will occur over a long period of time that exceeds the life of this fire management plan. Other park projects that remove vegetation include watershed restoration, maintenance of roads and trails, and restoration of the Bald Hills grasslands and oak woodlands through removal of encroaching Douglas-fir. The Little Bald Hills Trail will be rerouted out of an area infested with Port-Orford-cedar root disease. Sudden Oak Death, caused by a pathogen closely related to the root disease agent, is also expected to adversely affect park vegetation but the degree of effect is not yet known. Vegetation removal associated with the selected action will have a negligible contribution to the moderately adverse effects from cumulative actions in the short-term and will be moderately beneficial in the long-term in combination with other vegetation management projects in the parks.

*Effects on Wildlife*—Effects on wildlife from planned fire management activities will be negligible to minor generally, and moderately adverse to populations of small less mobile animals that live in the center of prescribed fire subunits. Elk and deer will benefit from the increase in growth of browse species that will be available on burned areas. Other wildlife including raptors and small mammalian predators will be able to locate prey more easily in burned areas. These benefits to some species of wildlife will be temporary, localized, and short-term but will recur following prescribed fires.

The overall effect on wildlife populations will be negligible in the short-term, adverse to some species and beneficial to others, and will recur on an annual basis for planned fire management

activities. Prescribed fires are conducted on a rotating basis to avoid burning extensive areas at one time, which is intended to allow wildlife to repopulate burn units from unburned areas. The long-term effect on most wildlife will be an indirect benefit that will not be detectable over the life of this plan because it will be related the persistence of wildlife communities in prescribed fire subunits, and to persistence of wildlife from reduced risk of catastrophic fire.

*Cumulative Effects on Wildlife*— Cumulative adverse effects on wildlife relate primarily to activities outside the parks including loss of habitat from logging; conversion of habitat to agriculture, residential, commercial and transportation development, and illegal poaching of elk and deer. These effects are negligible to significant, depending on the animal and its degree of mobility and tolerance of humans and disturbance. Some wildlife species benefit from the presence of humans who leave trash that serves as a food source, and from disturbance due to logging, which will result in an increase of forage for some species. Other park actions that affect wildlife include watershed restoration, second growth forest management, control of non-native plants, and maintenance of facilities. The cumulative effects on wildlife from park actions in the short-term will be adverse, localized, and negligible. In the long-term, the cumulative effect on wildlife from proposed fire management actions will be beneficial to the extent that the proposed actions prevent or reduce the intensity of wildfires. Catastrophic wildfire in unmanaged second growth forests will have a less severe effect on wildlife than in other second growth forests that have greater tree and plant species diversity and forest structure that more closely resembles old growth forest.

*Effects on Rare, Sensitive, Threatened, and Endangered Species*—NOAA Fisheries concurred with the NPS determination that the activities in the selected action may affect and are not likely to adversely affect Southern Oregon/Northern California Coast (SONCC) coho salmon, California Coastal chinook salmon, Northern California steelhead, and SONCC coho salmon designated critical habitat, as well as proposed critical habitats of California Coastal chinook salmon and Northern California steelhead.

The USFWS concurred with the NPS determination that the selected action will not affect the Oregon silverspot butterfly, the bald eagle, or designated critical habitat for the marbled murrelet; that the selected action may affect but is not likely to adversely affect the northern spotted owl and marbled murrelet; and that the selected action may affect and is likely to beneficially affect McDonald's rock cress and western lily. The USFWS concurred that the proposed action may affect but is not likely to adversely affect northern spotted owls and marbled murrelets, provided the work restriction periods associated with nesting and roosting habitat for northern spotted owls and the restriction periods for noise, visual disturbance, and prescribed burning within suitable murrelet habitat are observed.

*Cumulative Effects on Rare, Sensitive, Threatened, and Endangered Species* — Almost all activities in RNSP affect sensitive species because the forests and streams in the parks are occupied by bird species (northern spotted owl, marbled murrelets) and anadromous fish (coho and chinook salmon, steelhead trout) that are listed as threatened. On-going and planned projects and activities for which the NPS consults with either USFWS or NOAA Fisheries under Section 7 of the Endangered Species Act for potential effects on these species include watershed restoration; road, trail and facility maintenance and construction; non-native plant management; helicopter and off-road vehicle use; and beach management. The NPS has been authorized take of listed species by the USFWS and/or NOAA Fisheries for some of these activities. Park actions, in combination with the selected fire management action, do not have the potential to jeopardize the continued survival of any listed or proposed threatened or endangered species.

Outside the parks, the primary activities that affect sensitive or listed threatened and endangered species are loss of forest habitat from logging, residential, industrial, and agricultural development; dams for power development, flood control, and water supply for domestic and agricultural activities; and residential, commercial, industrial, and recreational development projects that reduce the quality of habitat or decrease the quantity of habitat. For anadromous fish, recreational and commercial fishing also affect fish populations over both the short- and long-term. These cumulative effects on some anadromous fish and some birds that use old growth forests are widespread, adverse, long-term, and significant, and have resulted in the listing of these species as threatened.

*Effects on Cultural Resources*—No adverse effects to cultural resources are expected from the planned fire management activities under the selected action. Any adverse effects will require consultation with the SHPO and/or THPO as appropriate.

The historic properties in the Lyons' Ranches Historic District and the Bald Hills Archeological District are those most likely to be affected by planned fire management activities and are most at risk from catastrophic fire. Loss of any structure identified as a contributing element to either District will be a significant irretrievable adverse effect. Reduction of hazardous fuels in the vicinity of historic structures and prescribed fire in the adjacent vegetation will minimize the potential for adverse effects from wildfire.

Archeological sites that might be affected by construction of firelines will be avoided by having archeologists inspect areas of proposed construction prior to ground disturbance. Prescribed fires will have no effect on cultural landscapes in the short-term, because the significant landscapes were created with intentional ignitions. Over the long-term, continued application of prescribed fire will restore the landscapes to a more original condition and extent. The effect of fire management actions on Bald Hills cultural landscapes will be direct, beneficial and minor in the short-term and direct, beneficial, and moderate in the long-term.

*Cumulative Effects on Cultural Resources*—Other on-going and proposed activities in the parks include watershed restoration, management of second growth forests and non-native plants, and maintenance and construction of trails and other facilities. The cultural sensitivity of the coniferous forest where watershed restoration and second growth forest management will occur is very low because these areas were logged or affected by road construction, which very likely damaged or destroyed any cultural resources originally present.

The most sensitive cultural areas in the parks are the Bald Hills, the mouth of the Klamath River and the river corridor, and other stream corridors. Actions that have affected or are likely to affect cultural resources in the Bald Hills include past logging and associated road building, current livestock grazing, past removal and modification of historic structures outside the parks, maintenance of the Bald Hills Road and maintenance of park roads, and early watershed restoration projects in the parks. The cultural landscape associated with prehistoric and historic Native American occupation and with the Lyons Family Ranches was affected by cessation of prescribed fires, full suppression of wildfires, and the removal of American Indians who occupied the area and tended certain plants associated with cultural traditions. These past actions should be considered a significant adverse effect on cultural resources, especially the cultural landscape of the Bald Hills. Recent archeological investigations in Jedediah Smith Redwoods State Park along the Smith River near Hiouchi indicate that the area possesses significant cultural resources that have been adversely affected by residential, commercial, and park developments. Highway and road development has affected cultural resources at Boyes Prairie (also called Elk Prairie) and the original Kelsey Trail in the Little Bald Hills.

*Effects on Visitor Experience and Visual Quality*—Prescribed burns will generally be scheduled for weekdays, when visitation is lower than weekends. The experience of some visitors will be adversely affected by temporary closures, by smoke from prescribed fires, and by the blackened appearance of areas that have recently been burned under prescriptions. Visual quality and the visitor experience will improve when vegetation regrows after the first rains and wildflowers emerge in the spring following prescribed fires conducted the previous season. This will be a short-term recurring benefit to the visitor experience that will range from minor to moderate and will be localized in prescribed fire subunits. Health hazards to visitors from smoke from prescribed fires will be negligible because visitors will not be in smoky areas long enough to suffer adverse effects. The overall effect on visitor experience and visual quality from the selected action will be temporary, localized, adverse, and negligible.

*Cumulative Effects on Visitor Experience*—Effects on visitor experience and visual quality from watershed restoration and second growth forest management will occur over a period of at least 10-15 years, be adverse in the short-term and beneficial in the very long-term (decades to centuries), and negligible to moderate, depending on whether visitors observe the areas during project activities or after the activities have taken place. Proposed construction of trails and other recreational facilities throughout the parks will have minor to moderate long-term benefits to the visitor experience.

*Effects on Adjacent Communities*—There will be negligible direct effects on these communities from fuel reduction projects in the parks but there could be benefits to the extent that fuel reduction projects in the parks reduce the intensity or spread of a wildfire. The degree of benefit will depend on whether a wildfire is averted or the intensity lessened by a fuel reduction project.

*Cumulative Impacts on Adjacent Communities*—It is not possible to describe all the past, present and reasonably foreseeable actions that have affected or might affect communities adjacent to the parks. Large or catastrophic wildfires in or outside RNSP have the potential to affect adjacent communities from smoke effects or risks to health, safety, and property. The effects of the selected action will have negligible direct benefits on adjacent communities, although the risk of wildfire will be reduced in the parks, which will slightly reduce the potential for a damaging wildfire that will affect adjacent communities.

**Mitigation for Fire Management Actions and Effects in Redwood National and State Parks**

<i>Resource &amp; Effect</i>	<i>Mitigation</i>	<i>Responsible Party</i>
Air Quality and Visibility—smoke, vehicle emissions	Implement prescribed fire under permit conditions established by AQMD; traffic safety controls	RNSP Fire Management Officer (FMO)
Soils, Water Quality, Floodplains, Wetlands—soil disturbance, erosion of bare soils into streams	MIST, BMPs required	RNSP Geological Services staff (planning); FMO implementation
Vegetation—short term, recurring loss from preparation and burning; long-term prevention of catastrophic fires	MIST	RNSP Vegetation Management Branch and FMO (planning and implementation)
Wildlife—some individuals killed by prescribed fire	Rotate years and stagger location of burn units, primarily in Bald Hills; protect snags and downed logs; restriction	RNSP Fish and Wildlife Biologist (planning); FMO implementation

	periods for sensitive species protect other wildlife	
Sensitive Plants— destroyed by fire or soil disturbance; long-term benefit from restoration of fire as an ecological process	Surveys prior to constructing firelines, avoidance	RNSP Vegetation Management Branch and FMO (planning and implementation)
Sensitive Animals— smoke, loss of habitat from vegetation removal and fire, indirect effects on fish from erosion and reduced water quality	Fish BMPs; restriction periods for owls, murrelets, migratory birds, fishers	RNSP Fish and Wildlife Biologist (planning); FMO implementation
Cultural Resources— damaged by ground disturbance, structures destroyed by wildfire, cultural landscape	Surveys, avoidance, historic structure protection, MIST, suppression around structures	RNSP Cultural Resources Program Manager and WHIS Fire Archeologist (planning and implementation)
Visitor Experience— reduced visibility from smoke, trails closed	Traffic controls on roads, interpretation of benefits of fire, wildflower blooms next season after prescribed burns	RNSP FMO (traffic); RNSP Interpretation Division (public notification and outreach)
Adjacent Communities— —smoke from prescribed fires, reduced risk of catastrophic fire	Burn only under AQMD permit conditions	RNSP FMO (implementation); RNSP Interpretation Division (public notification and outreach)

**Non-Impairment of Park Resources and Values**

*Minimum Impact Suppression Tactics*—MIST are specifically planned to protect sensitive resources and implemented to reduce the short- and long-term adverse effects of emergency fire suppression on watersheds, streams, soils, sensitive plants and animals, and old growth forests and trees in Redwood National Park, and will not result in impairment to park resources and values.

*Non-Impairment of Air Quality*—The adverse effects of smoke on visibility and park resources from prescribed fires are minimal, short-term, and generally localized. Prescribed fires are permitted by the AQMD only when smoke can be managed at less than hazardous levels, considering cumulative effects of smoke from other permitted burns. The adverse effects of smoke from large wildfires could be unavoidable and significant but will not persist for more than several weeks before the onset of the rainy season that will extinguish a wildfire that could not be otherwise controlled. Air quality in the parks will return to good to excellent conditions after wildfires or prescribed fires are extinguished. The long-term effect of fire management will reduce the potential for large wildfires. Thus, the selected action will not impair air quality or air quality related values in the parks.

*Non-Impairment of Soils, Watersheds, Water Quality, Floodplains, and Wetlands*—The selected action, including reduction of hazardous fuels and preparation for suppression, is intended to reduce the long-term potential for wildfire and to prepare for more effective suppression. Without these actions, the long-term potential for severe wildfires will increase. Extensive severely burned areas will be subject to severe erosion in the first rainy season after the fire. Depending on the location of a catastrophic fire, the adverse effects on water quality of park streams from erosion of bare soil will range from moderate to severe. Catastrophic wildfire has the potential to impair water quality in park streams from direct effects of burned materials

entering streams and over a longer period, from erosion of bare soils and subsequent sedimentation of streams. Because of the currently impaired condition of water quality in Redwood Creek and some tributaries from logging and associated road construction prior to park establishment, it will be difficult to determine the degree of impairment due to a catastrophic fire in comparison to the degree of impairment from previous land use.

The planned fire management actions in the Bald Hills and in the coniferous forest in the Redwood Creek watershed will take place in the headwaters areas where most streams are intermittent. Best management practices will minimize or avoid excessive soil erosion. Any potential contribution to the presently impaired water quality of Redwood Creek from planned fire management activities in the Bald Hills and the coniferous forests within the Redwood Creek watershed under the selected action will be negligible.

The selected action will not contribute to the current impairment of the Redwood Creek watershed that was created by clear-cut logging and associated road-building prior to the enactment of the California Forest Practice Rules and to the establishment and expansion of Redwood National Park. The selected action will not impair other watersheds, soils, water quality, floodplains, or riparian wetlands in the parks.

*Non-Impairment of Vegetation Resources*—The intensive commercial logging that occurred prior to park establishment and expansion is considered to have created an impairment to old growth forests, but this impairment resulted in the establishment and expansion of Redwood National Park, and will not be exacerbated by planned fire management activities under the selected action.

The second growth forest stands resulting from logging prior to establishment and expansion of the national park represent an impaired condition compared to the unlogged old growth forests that the parks are intended to preserve. Fire management activities in second growth forests will be limited to reduction of hazard fuels on about 500 acres and wildfire suppression.

Reduction of hazardous fuel levels and preparation for suppression actions under the selected action are intended to reduce the long-term potential for wildfire, particularly catastrophic wildfire, and to prepare for more effective suppression in a short a time as possible. Without these proposed actions, the long-term potential for wildfires will increase. The adverse effects of catastrophic wildfire on vegetation will range from moderate to severe. Catastrophic wildfire has the potential to directly impair plant communities in the parks, particularly old growth forests. A catastrophic fire in old growth redwood forests will be very unusual but will create a long-term impairment both directly from loss of old growth trees and indirectly from subsequent erosion of soils and effects on watersheds.

It is extremely unlikely that a fire in old growth redwoods will reach catastrophic proportions because air support, road access, heavy equipment, and a national fire organization allow for effective fire suppression. A large wildfire in second growth forests may or may not create an impairment to park resources, depending on whether the fire creates a situation that shortens or lengthens the time over which park forests return to a condition more similar to old growth forest. The second growth forests that have been intensively logged and replanted without subsequent thinning represent an impairment compared to old growth redwood forests, but the second growth forests were specifically included in Redwood National Park so that these areas could be restored to a condition that will not further impair the streams and soils downslope and downstream of intensively harvested areas. Therefore, a catastrophic fire in some second growth forests will not impair park vegetation resources but might result in an impairment to other park resources such as streams from erosion following the fire.

The selected action will have short-term, localized, adverse effects on vegetation primarily due to preparation for and implementation of prescribed fires, but these effects will be negligible because there will be long-term benefit from using prescribed fire to reduce fuels. Therefore, the selected action will not impair park vegetation or plant communities.

*Non-Impairment of Wildlife Resources*—Wildfires, particularly catastrophic fires, will have direct, long-term, negative effects on most species of wildlife within the fire perimeter. The effects will vary from minor to severe depending on the size and intensity of the fire, and the species affected. Catastrophic wildfires have the potential to impair park wildlife populations from both direct effects due to loss of many individuals and long-term indirect effects due to loss of habitat and conversion of habitat to a different type. A few wildlife species will benefit from creation of snags and forest openings in the decades following a catastrophic fire but many other species of wildlife will be adversely affected over both the long- and short-term by catastrophic wildfire that kills individual animals and destroys large areas of habitat.

The greatest effects on wildlife from planned fire management actions will occur in the Bald Hills where the majority of prescribed fire subunits are located. Although some individual animals will be killed by prescribed fire, there will be no effect on overall populations of any wildlife species, provided the prescribed fires are rotated through the 24 subunits so that not all the units are burned in any given season and the units are separated by unburned areas to serve as refugia for at least the more mobile wildlife species. Therefore, the selected action will not impair park wildlife resources.

*Non-Impairment of Rare, Sensitive, Threatened, and Endangered Species*—The USFWS and NOAA Fisheries have concurred with the NPS determinations that no listed, proposed, or candidate threatened or endangered species, or their designated or proposed critical habitats, will be adversely affected by the selected action. Therefore, the selected action will not impair sensitive, threatened, or endangered plant or wildlife species.

*Non-Impairment of Cultural Resources*—Direct adverse effects on cultural resources from planned fire management actions will be avoided through identifying the resources prior to ground disturbance and protecting the resources with protection measures outlined in the EA. Park cultural resource specialists will survey areas where fire lines will be located and will direct crews to construct lines in locations that will avoid cultural resources. Fire management activities in the Bald Hills will have negligible adverse effects on known cultural resources, primarily archeological sites whose locations are known, and will have long-term benefits to historic structures, which are protected by annually reducing excess fuels and constructing firelines around them, and cultural landscapes that developed as a result of intentional ignition. No other cultural resources have the potential to be affected by planned fire management actions. Loss of any structure identified as a contributing element to the Lyons' Ranches Historic District in the Bald Hills will be a significant irretrievable adverse effect and an impairment. To the extent that planned fire management actions reduce the potential for wildfires, particularly catastrophic wildfires, planned fire management actions reduce the potential for impairment to cultural resources from a wildfire. Therefore, the selected action will not impair cultural resources.

*Non-impairment of Visual Quality*—The adverse effects on visual quality in about 50,000 acres of RNSP from logging of old growth trees prior to park establishment and expansion are gradually decreasing where forests are regrowing, except in some dense unmanaged second growth stands that are considered impaired by clearcut logging. The visual quality of Hiouchi is affected by commercial, residential, and transportation developments but the superb visual quality associated

with the Smith River and the old growth redwood forests preserved in Jedediah Smith Redwoods State Park and visible from Hiouchi will not be affected by maintenance of the shaded fuel break. The selected action will have negligible short-term adverse effects on visual quality due to smoke during prescribed fires and immediately following the burns until the onset of the rainy season encourages regrowth of new vegetation. Therefore, the selected action will not impair visual quality or scenic resources of the parks.

**Basis for Decision**

Based on the analyses of issues and alternatives presented in the EA, together with consideration of public interest and the relation between public interest and laws, statutes, and regulations for managing NPS units, the ability of the mitigation measures to reduce or eliminate adverse impacts, and the concurrence of agencies and affiliated American Indian tribes that were consulted, the NPS is selecting to implement the proposed action described as Alternative 2 in the *Fire Management Plan, Environmental Assessment, Redwood National and State Parks, Redwood and Del Norte County, California*, dated December 2004.

*Impairment disclosure*—The impacts documented in the EA and summarized above will not affect resources or values key to the natural or cultural integrity of the park. Based on the potential environmental consequences and cumulative effects summarized above, as well as reasonably foreseeable NPS actions, the NPS has determined that the selected action will not result in impairment of resources and values necessary to fulfill specific purposes identified in the enabling legislation and will not violate the NPS Organic Act.

It is the determination of the NPS that the program activities and strategies for managing fire in Redwood National and State Parks as described in Alternative 2 (the proposed action and environmentally preferred alternative) in the *Fire Management Plan, Environmental Assessment, Redwood National and State Parks, Del Norte County, California*, dated December 2004, do not constitute a major federal action significantly affecting the quality of the human environment, nor are these activities and strategies without precedent or similar to ones that normally require an environmental impact statement. Therefore, in compliance with the National Environmental Policy Act, the NPS will not prepare an environmental impact statement, and will proceed with implementation of the program as soon as practicable.

Recommended: Bill Pierce 5-5-05

Bill Pierce  
Superintendent  
Redwood National Park

Date

Approved: for Jonathan B. Jarvis 5-10-05

Jonathan B. Jarvis  
Regional Director  
Pacific-West Region

Date