

**Finding of No Significant Impact  
Trail and Backcountry Management Plan  
Redwood National Park  
Del Norte and Humboldt Counties, California  
June 2009**

**Introduction**

This Finding of No Significant Impact (FONSI) should be attached to the *Trail and Backcountry Management Plan Environmental Assessment* (TBMP EA) dated April 2009. This FONSI together with the EA and the errata sheet constitute a full and complete record of the conservation planning and environmental impact analysis process for this proposal.

The EA is tiered off the Redwood National and State Parks 1999 *Final General Management Plan/General Plan, Final Environmental Impact Statement / Environmental Impact Report* (GMP/FEIS). The GMP directed development of a comprehensive trail and backcountry management plan to guide the development of an expanded trail system, specify the locations of primitive camping areas, and prescribe policies and regulations for the use of backcountry areas by hikers, bikers, and equestrians.

**Purpose and Need for Trail Development and Backcountry Management**

The purpose of this action is to expand the trail system in the national park, to connect the national park trails with the state park trail system, and to provide park visitors with the opportunity to experience the full range of park resources and ecosystems. The trail system will provide opportunities for hikers, bicyclists, and equestrians of all abilities.

This trail system is needed to provide visitors with opportunities to visit the full range of park resources by foot, horseback or bicycle; to provide access to primitive or backcountry camping areas; to reduce barriers and provide safe and enjoyable recreation for all trail and backcountry users; and to connect the trails with the other RNSP trails and with trail systems outside these parks.

**Selected Action**

The EA identified and analyzed a no action alternative (Alternative A) and three action alternatives, Alternative B (Moderate Development); Alternative C (Recreation Focus); and Alternative D (the proposed action and the NPS Preferred Alternative). Several other actions were considered during planning but were not carried through for full analysis under any alternative.

The action selected for implementation is the same as that described and analyzed in the EA as the proposed action (Alternative D); no modifications were incorporated as a result of public comment. Alternative D is also the environmentally preferred alternative.

Under the selected action, the NPS will construct 8 hiking trails totaling 16.7 miles. Two of the 8 hiking trails to be constructed were previously approved through the 1996 Davison Ranch development concept plan but were not constructed because more comprehensive planning for the 1999 GMP began shortly after the Davison Ranch plan was approved. The East Side Trail under the selected action will run for 7 miles from the junction of the existing Emerald Ridge and Dolson Trails to connect to the new segment of the Lyons Ranch Trail.

The B-Line Bicycle Trail (Trail L) and the Coyote Creek Bicycle Loop (Trail U) were included in the TBMP proposed action as bicycle routes. These routes on existing roads will be maintained as bicycle trails. Unless specifically closed to such use by announcement in the park's compendium, all park roads open to vehicles are also open to bicycles under general regulations found in 36 CFR 1.5 without the need for rule making under 36 CFR 4.30 (a). The EA describes impacts associated with use and maintenance of existing facilities, including roads and trails. Based on the impact analyses in the EA, the NPS has determined that bicycle use of existing roads maintained for administrative vehicle access will not result in unacceptable impacts to natural or cultural resources. The NPS finds that there are no additional impacts

on natural or cultural resources from bicycle use of roads open to and maintained for motor vehicle use, and that this use is consistent with the management zoning for the developed, frontcountry, backcountry mechanized, transportation, and Bald Hills zones described in the 1999 GMP/FEIS and the 2000 ROD. Management zoning established through the 1999 GMP/FEIS and the 2000 ROD prohibits mechanized forms of visitor transport for recreation in primitive zones and backcountry non-mechanized zones; roads in these zones are specified in the park's compendium as closed to public use.

Trailheads will be constructed at Wilson Creek to serve the Coastal Trail and on the A-9 Deck to serve the Orick Horse Trails. The trailheads serving the Lyons Ranch trail and the Mill Creek horse trails will be redesigned for safety and to improve pedestrian and vehicle circulation patterns.

About 6.5 miles of the West Side Access Road from the park boundary at Hiltons Road near Orick to the new A-9 Deck trailhead will be opened to public motor vehicle use. The road will provide access to the equestrian trails and backcountry camps on the west side of Redwood Creek. All roads leading off the A-9 deck will be gated to prevent unauthorized motor vehicle access.

Two new backcountry camps will be constructed near the headwaters of Skunk Cabbage Creek along the section of the Coastal Trail near the southern end of Gold Bluffs Beach and at Copper Creek on the southern extension of the East Side Trail.

The existing backcountry equestrian camp at Fortyfour Creek in the Redwood Creek basin will be relocated to the G-6-1 Road to improve resource protection and visitor safety and to provide an adequate stock water source, and will be redesigned to improve accessibility for visitors of all abilities.

All camping in the existing and proposed backcountry camps, equestrian camps and dispersed camping areas in RNSP will require a free permit. Currently, NPS backcountry permits are required only in the Redwood Creek basin, where almost all camping occurs on the gravel bars in the Redwood Creek channel.

Dispersed camping will no longer be allowed along about 4 miles of the lower Redwood Creek gravel bars from approximately 0.25 mile below the mouth of McArthur Creek upstream to Bond Creek. Dispersed camping on the gravel bars along Redwood Creek will be allowed to continue upstream of Bond Creek to the park boundary, except within 0.25 mile either side of the Tall Trees Grove. This action is part of an on-going study of the relation between visitor use and the numbers of corvids (jays and ravens), which are known to be a predation threat to marbled murrelets. Murrelets are assumed to occupy the old growth forest along this section of the creek. If the study shows no relation between corvid populations and presence of campers, the camping closure might be lifted.

#### **Other Alternatives Considered**

Under the No Action alternative (Alternative A), all existing trail and backcountry management policies, regulations, and permit requirements would remain unchanged. Under the no action alternative, there would be no construction of new trailheads, backcountry camps, or trail segments other than those previously approved through earlier planning efforts for Davison Ranch (1996) and the 1999 GMP/GP. These previously approved trails include the East Side Trail described in the 1999 GMP and 4 trails approved through the Davison Ranch planning process. The route of the East Side Trail as described in the 1999 GMP would run through old growth forest for 7 miles between Lady Bird Johnson Grove and the Tall Trees Grove as envisioned in the 1978 park expansion legislation. The Davison Ranch trails that would be constructed are the hiking trail between Berry Glen and Lady Bird Johnson Grove; a hiking link to the Skunk Cabbage section of the Coastal Trail that runs from the Trillium Falls Trail up the north side of Skunk Cabbage Creek; a mountain bike loop using abandoned logging roads along Skunk Cabbage Creek; and an equestrian trail on abandoned logging roads west of Davison Ranch. Dispersed camping on the gravel bars within the Redwood Creek channel will continue to be permitted from the mouth of McArthur Creek upstream to the park boundary, except within 0.25 mile of the Tall Trees Grove.

Under Alternative B (moderate development), the NPS would construct 10 hiking trails totaling 24 miles, 3 trailheads, 4 backcountry camps, and maintain 2 new bicycle routes. Most of the proposed trails, trailheads, and backcountry camps to be constructed and bicycle routes would be the same as under the selected action. Alternative B includes an additional trailhead at the Whiskey 40 area along the Bald Hills Road in Humboldt County and two additional backcountry camps at Miller Creek on the East Side Trail and Counts Hill Prairie on the extended East Side Trail in the Redwood Creek basin. The route of the East Side Trail under Alternative B would skirt the edge of old growth forest wherever possible and run almost 13 miles from Lady Bird Johnson Grove past the Tall Trees Grove, connect to the existing Emerald Creek and Dolason Trails, and continue to a new segment of the Lyons Ranch Trail. Other actions under Alternative B that are the same as under the selected action are a redesign of the Lyons Ranch and Mill Creek Horse Trails trailheads, relocation of the Fortyfour Creek equestrian camp, opening the West Side Access Road to public use as far as the A-9 equestrian trailhead, and requiring free permits for all backcountry camping. As under the no action alternative, camping would be continue to be allowed on the gravel bars on Redwood Creek from McArthur Creek upstream to the park boundary, except for the existing prohibition against camping 0.25 mile on either side of the Tall Trees Grove.

Under Alternative C, the NPS would construct almost 50 miles of hiking trails, one new equestrian trail, 7 trailheads, and 5 backcountry camps; and maintain 3 new bicycle routes. Most of the proposed trails, trailheads, and backcountry camps to be constructed and routes to be maintained for bicycles would be the same as under the selected action. One bicycle route and an equestrian trail were approved through the Davison Ranch plan, as described under the no action alternative. Alternative C includes additional trailheads at the junction of Alder Camp Road and Coastal Drive, the Whiskey 40 area, Coyote Peak Road, and two trailheads along the West Side Access Road beyond the A-9 Deck equestrian trailhead. Three additional backcountry camps would be constructed at Miller Creek, Counts Hill Prairie, and along the Coyote Creek bicycle route. About 10 miles of the 13 miles of the East Side Trail under Alternative C would run through old growth forest wherever possible from Lady Bird Johnson Grove past the Tall Trees Grove, connect to the existing Emerald Creek and Dolason Trails and continue to a new segment of the Lyons Ranch Trail, which would be a loop trail under this alternative. Other actions under Alternative C that are the same as under the selected action are redesign of the Lyons Ranch and Mill Creek Horse Trails trailheads, relocation of the Fortyfour Creek equestrian camp, and requiring free permits for all backcountry camping. As under the no action alternative, camping would be continue to be allowed on the gravel bars on Redwood Creek from McArthur Creek upstream to the park boundary, except for the existing prohibition against camping 0.25 mile on either side of the Tall Trees Grove. The West Side Access Road would be open to public use beyond the A-9 equestrian trailhead to the new trailheads that will provide access for a dispersed camping area and two new trails that are unique to Alternative C in the Tom McDonald Creek, Bridge Creek and Devils Creek watersheds on the west side of Redwood Creek. No trailers would be allowed past the A-9 trailhead.

#### ***Other Actions Considered But Dismissed***

***Redesign the Little Bald Hills Trailhead***—A proposal to redesign and enlarge the Little Bald Hills trailhead in Jedediah Smith Redwoods State Park to accommodate horse trailers was considered but rejected in favor of the proposed redesign of the Mill Creek Horse Trailhead. Redesigning and enlarging the Little Bald Hills trailhead for easier access by large vehicles would adversely affect old-growth forest and large redwood trees. The Mill Creek Horse Trailhead is located in a previously disturbed area outside of old-growth redwood forest. It has more convenient access by paved road and is easier and safer to negotiate with a stock trailer than the Little Bald Hills trailhead off Howland Hill Road, a narrow winding unpaved road through old-growth redwood forest.

***Construct a Fully Accessible Camp near the Redwood Creek Trailhead***—A proposal to construct a fully accessible camp downstream of the creek crossing nearest the end of the lower Redwood Creek Trail was considered. This proposal was rejected because there was no site level enough to provide accessible toilets while being far enough from the creek to meet sanitation codes. North Coast Region Water Quality Control Board standards and Humboldt County sewage disposal regulations for on-site sewage disposal

systems require a setback of at least 100 feet from a perennial stream, measured from the edge of the ten-year floodplain. Areas far enough from the creek to comply with water quality standards are too steep to meet accessibility standards.

*Relocate the Nickel Creek Backcountry Camp*—The Nickel Creek backcountry camp with five sites receives the highest annual average number of overnight stays of any NPS backcountry camp. The camp is within easy walking distance of the trailhead and attracts some users who engage in inappropriate uses and activities inconsistent with intended use of the area as a trail and backcountry camp. Some users camp illegally along the trail between the trailhead and the camp. People camping illegally on the beach near Nickel Creek intrude on interpretive programs conducted on the beach. The Nickel Creek camp was moved to its current location in 1980 from a nearby location that is an archeological site listed on the National Register of Historic Places. The site is subject to adverse effects from looters and illegal camping. Resource damage attributable to illegal activity was reduced by the first relocation but continues. A proposal to relocate the camp a second time to a point along the Coastal Trail about one mile south of its existing location was considered. The proposed new location did not meet the criteria used to select sites for new backcountry camps. The closest available location with relatively level ground on which to construct campsites would not provide a high quality backcountry camping experience due to lack of a water source and poor esthetic surroundings in second growth forest. It was determined that it would be more cost-effective to provide additional law enforcement patrols of the existing location and to protect the site using structural techniques than to relocate the camp a second time.

*Backcountry Camping without Permits*—An alternative in which permits would not be required for overnight use in the backcountry was considered but rejected based on concerns about safety and resource protection. Requiring permits provides a margin of safety for visitors. Permits allow rangers to locate campers more easily in case of emergency or if search or rescue is needed, to determine if vehicles parked overnight at trailheads belong to campers, to provide information on the relationship between visitor use and resource impacts, and to inform campers if a backcountry camp is already full. Permits allow the NPS to monitor use levels to determine if demand is high enough to warrant additional camping facilities and to compare the number of campers with the degree of impact at camps.

*Dispersed Camping Fire Permits*—Allowing ground fires by permit in the dispersed camping area proposed under Alternative C was considered but rejected because of the risk of wildfire from uncontrolled campfires.

### ***Environmentally Preferred Alternative***

The environmentally preferred alternative is the action that best promotes the environmental policies outlined in the NEPA statute. 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 to health or safety; and preserving important historic, cultural, and natural aspects of our national heritage.

Alternative D, the approved action, is the environmentally preferred alternative because it will have the fewest new adverse impacts to significant natural resources in the national park.

Although Alternative A, the no action alternative, would have the least new construction, the East Side Trail alignment under the no action alternative would pass entirely through an undisturbed section of old growth redwood forest that has no existing visitor use. Construction, use and maintenance of a new trail through old growth forest would result in disturbance to two federally listed threatened species (marbled murrelet and northern spotted owl) and increase the risk of corvid predation on nesting murrelets. The no action alternative also includes construction of an equestrian trail and a mountain bike loop trail in the Davison Ranch area. An equestrian trail would require construction of an additional trailhead at Davison Ranch or that equestrians use the existing Elk Meadow trailhead. The Elk Meadow trailhead was not designed for equestrian use and has no facilities for cleaning up livestock waste which other trailhead users

might find objectionable. In addition, livestock use in the area would increase the potential for introduction of invasive exotic plants. Therefore, Alternative A, no action, is not the environmentally preferred alternative because of adverse effects to listed threatened species from new construction and visitor use in old growth forests and introduction of livestock into an area of the park where there is currently no livestock use.

Alternative B is not the environmentally preferred alternative because it includes construction of approximately 8.6 miles of a portion of the East Side Trail through old growth redwood forest. Alternative C is not the environmentally preferred alternative because of construction of approximately 10.3 miles of the East Side Trail through old growth redwood forest and an additional 3.6 miles through old growth as part of a 14-mile-long trail in Bridge Creek. Alternatives B and C both include construction of an additional three-quarters of a mile of trail in old growth (Whiskey 40 Trail) and an associated trailhead. Alternatives B and C also include development of a backcountry camp adjacent to old growth forest. The Miller Creek camp along the proposed East Side Trail would be located adjacent to old growth forest, which would increase the predation risk to murrelets by attracting nest predators that have learned to associate humans with food.

Construction, use and maintenance of new facilities in old growth forest would result in additional disturbance to marbled murrelets and northern spotted owls and increase the risk of corvid predation on nesting murrelets.

Alternative C would also permit dispersed camping on the west side of Redwood Creek, which would further increase human presence in old growth areas, and would allow visitor use along the West Side Access Road for an additional 9.8 miles for access to two trailheads that would serve two proposed trails. Increased vehicle access generally results in additional human food and garbage at trailheads, which would increase populations of avian predators and thus increase the risk of predation to threatened birds.

Alternative C also includes construction of the Skunk Cabbage equestrian trail, with the associated impacts from livestock use that are the same as those discussed above for Alternative A (no action).

Because of additional impacts to threatened bird species from new development, maintenance and use of visitor facilities in or adjacent to old growth forest, Alternatives B and C are not environmentally preferred alternatives.

Alternative D, the proposed action, is the environmentally preferred alternative because it has the least development in or adjacent to old growth redwood forest, and would minimize noise, visual disturbance, and increased risk of predation to threatened marbled murrelets and northern spotted owls that occupy old growth forest.

#### **Public Involvement and Agency Coordination**

The NPS sought input for this plan from the public, park and other agency personnel, agency directives, policies, and guidelines, and applicable laws and regulations. Trail users, interested members of the public, federal, tribal, state and local agency personnel, park staff, and local residents contributed written comments and suggestions and raised issues and concerns in public meetings.

Public scoping for trail development and backcountry use was initiated in the fall of 1999. Scoping included public meetings, requests for written comments given out at the meetings, and discussions with agencies, organizations and individuals. Public comments from the 1996 Davison Ranch and the 1999 GMP/GP planning processes also served as a source of information. Public meetings held November 8-10, 1999 were attended by 31 people in Arcata, 16 people in Orick, and 32 people in Crescent City. In addition to oral comments and questions, meeting participants were given the opportunity to provide written comments. Forty-five people provided written comments and suggestions.

The EA was available for public review and comment for a 35-day review period between April 18 and May 22, 2009. Printed copies of the document were available at four local libraries in Crescent City, Arcata, and Eureka, and at park offices in Crescent City and Orick. Twenty printed copies and 36 CD-ROMs of the TBMP EA were distributed to elected officials; federal, state and local agencies; federally recognized American Indian tribes; organizations; local businesses; and individuals. An additional 49 letters were mailed announcing that the document was available for review on the internet, at libraries, and park offices.

The NPS issued a press release to the standard RNSP mailing list of print, television, and radio media on April 17, 2009 announcing the availability of the EA for public comment. The press release provided the internet address for the park website where the plan was posted. None of the news media announced the availability of the plan.

The NPS received 15 written comments on the TBMP EA, including a comment from the California Department of Transportation (Caltrans) and one from the Yurok Tribe. Two comments were from area residents representing local chapters of trail user organizations (Redwood Unit of Back Country Horsemen of California and Bigfoot Bicycle Club affiliated with the International Mountain Bike Association). Eleven additional comments were submitted by individuals.

The NPS acknowledges the need to obtain an encroachment permit from Caltrans for any work within a Caltrans highway right-of-way. The NPS will continue to consult with the Yurok Tribe, including the Tribal Heritage Preservation Office where appropriate, on the implementation of any project or activity on park lands that could affect resources or traditional activities within the Yurok Reservation or ancestral territory.

Most comments requested that more trails and visitor facilities be constructed in addition to those that will be constructed as part of the selected action. In general, construction of new visitor facilities including trails is limited by available funding. The NPS will focus on construction of the trails included in the selected action as funding becomes available.

***Consultation with the U.S. Fish and Wildlife Service***—The NPS submitted a preliminary draft biological assessment (BA) on the TBMP to the USFWS Arcata Fish and Wildlife Office (USFWS) on September 19, 2002 and met with USFWS staff to discuss the proposed project on September 24, 2002 and October 28, 2002. The NPS submitted a draft TBMP EA to USFWS on March 24, 2003 and met on April 8, 2003. The USFWS provided comments on the draft TBMP EA on May 30, 2003. The NPS submitted subsequent draft BAs to the USFWS in August and November 2004 and received comments in October 2004 and February 2005, respectively. The NPS requested formal consultation in April 2005 and met with USFWS in August 2005 to discuss concerns about effects on marbled murrelets. In October 2005, the NPS requested a delay in completion of consultation to consider changes to the proposed action to decrease impacts to marbled murrelets. Between February and May 2006, biologists from the NPS, California Department of Fish and Game, Humboldt State University, and the USFWS met to discuss management of corvids (a family of birds that are known to prey on nestlings of marbled murrelets and other birds) in RNSP. The NPS submitted new draft sections of the BA to the USFWS in May 2006 and received comments in August 2006.

The NPS submitted a final BA to the USFWS Arcata Fish and Wildlife Office on August 30, 2006. The NPS requested initiation of formal consultation under section 7 of the ESA for possible effects from the proposed action on the California brown pelican, Oregon silverspot butterfly, marbled murrelet, bald eagle, western snowy plover, and northern spotted owl. The USFWS issued a biological opinion file number 8-14-2003-1517, which was received by the NPS on January 31, 2007. The BO and consultation are valid through 2017.

The BA and the resulting BO address all actions to be undertaken by the NPS proposed in the TBMP associated with proposed trail and backcountry use, as well as use and operation of existing facilities

including trails, trailheads, and campgrounds throughout RNSP. The NPS determinations and USFWS conclusions cover all of RNSP, including proposals that may be considered by CDPR in one of the three state park units included in RNSP.

The NPS determined, and the USFWS concurred, that the actions in the TBMP will not affect western snowy plovers and may affect but are not likely to adversely affect the bald eagle, brown pelican, and Oregon silverspot butterfly.

The NPS determined, and the USFWS concurred, that the actions proposed in the TBMP are not likely to jeopardize the continued existence of the marbled murrelet or the northern spotted owl. Although there is no designated critical habitat for marbled murrelets in the national park, there is designated critical habitat in the state parks. However, the action proposed in the TBMP does not affect that critical habitat and no destruction or adverse modification of that critical habitat is anticipated. Critical habitat for the northern spotted owl has been designated in RNSP but the action proposed in the TBMP does not affect that habitat and no destruction or adverse modification of that critical habitat is anticipated.

The NPS requested, and the USFWS authorized, incidental take of marbled murrelets and northern spotted owls throughout RNSP for the selected action described the TBMP. Incidental take is expected to be in the form of

- harassment of marbled murrelets associated with 3,129 acres of occupied nesting habitat and of northern spotted owls associated with 2,059 acres of unsurveyed nesting and roosting habitat due to operation and use of existing facilities annually for 10 breeding seasons (2007 through 2017.)
- harassment of marbled murrelets associated with 384 acres of occupied nesting habitat and of northern spotted owls associated with 166 acres of unsurveyed nesting and roosting habitat due to the operation and use of new facilities annually from the date of construction through 2017.
- harassment of marbled murrelets and of northern spotted owls associated with 250 acres of occupied nesting habitat due to the use of chainsaws to clear a maximum of two fallen trees from the East Side Trail annually for 10 breeding seasons.
- harm of marbled murrelets associated with 10,289 acres of occupied nesting habitat due to an increased risk of corvid predation near existing facilities annually for 10 breeding seasons.
- harm of marbled murrelets associated with 1,250 acres of occupied nesting habitat due to an increased risk of corvid predation near new facilities annually from the date of construction through 2017.

***Consultation with the National Marine Fisheries Service***—The NPS initiated discussions with NOAA's National Marine Fisheries Service (NMFS) staff from the Southwest Region Arcata Area Office in 2002 about the effects of proposals on listed anadromous fish and any designated critical habitat. NMFS provided technical assistance to the NPS between October 2002 and November 2004, including site visits, discussions, and comments on draft versions of the TBMP EA. A draft TBMP EA was sent to NMFS on March 24, 2003 with comments on the draft TBMP EA received in May 2003, on an initial draft BA in September 2003 and in November 2003 on a subsequent draft prepared for a revision to the proposed action. The NPS requested consultation and submitted a BA to NMFS in March 2005. The NPS subsequently requested that NMFS suspend consultation on the effects of the proposed action on listed fish while the NPS addressed concerns on terrestrial threatened and endangered species. In December 2005, NMFS recommended that all Federal agencies reinstate consultations on projects due to newly designated critical habitat for California Coastal (CC) Chinook salmon and Northern California (NC) steelhead.

The NPS submitted a final BA to NMFS on August 30, 2006, requesting initiation of formal consultation on concerned the possible effects on the Southern Oregon/Northern California Coast (SONCC) coho salmon and CC Chinook salmon Evolutionary Significant Units (ESUs), the NC steelhead Distinct Population Segment (DPS), and designated critical habitats for these three species. Following a request for additional information about critical habitat designation information in the BA, NMFS initiated formal

consultation in October 2006. The results of the consultation are contained in NMFS BO file number ARN # 151422SWR03AR8825, dated September 17, 2007.

NMFS concluded that the proposed actions in the TBMP are not likely to jeopardize the continued existence of SONCC coho salmon, CC Chinook salmon, or NC steelhead or result in the destruction or adverse modification of their designated critical habitats.

**Cultural Resource Consultations**—Government-to-government correspondence with the Yurok Tribe occurred on April 20, 2001 during scoping for the TBMP. The Yurok Tribe provided written comments on an early draft of the TBMP on May 18, 2001.

A face-to-face meeting to share information with affiliated Tribes and discuss the proposed TBMP was held at the RNSP office at Aubell Ranch on March 15, 2005. The meeting was attended by RNSP staff and staff of the Smith River Rancheria and Yurok Tribe. Elk Valley Rancheria, Smith River Rancheria, Tolowa Nation, Yurok Tribe, Resighini Rancheria, Trinidad Rancheria, and Big Lagoon Rancheria were invited to participate in a second meeting held the same day at the South Operation Center in Orick but no Tribal representatives attended.

Trail development has been discussed incidentally with local tribes during the course of regularly scheduled meetings and consultations for other projects.

Some of the proposed developments in the national park will require further site-specific planning prior to construction. Future site-specific planning will require additional compliance with the National Historic Preservation Act (NHPA) for trails, trailheads, and backcountry camps. Planning and construction of trailheads will also require additional compliance with NEPA. Consultation with the California SHPO under the NHPA, and with tribal governments including tribal historic preservation officers, will be conducted when site-specific planning commences.

#### **Why This Project Will Not Have a Significant Effect on the Environment**

This section summarizes effects on resources in the context of the project area and the parks as a whole, and documents that none of these effects is significant, highly controversial or uncertain, nor will the selected action adversely affect public health and safety. Further, the selected action is not part of a larger action and will not establish a precedent for future actions.

The TBMP EA summarizes mitigation measures to protect marbled murrelets and northern spotted owls. Detailed descriptions of mitigations are contained in the USFWS Biological Opinion file number 8-14-2003-1517 received by the NPS on January 31, 2007.

Preliminary determinations of potential effects on cultural resources from all alternatives, including the selected action, are in Appendix H of the TBMP EA. When site-specific design for trails, trail heads, and backcountry camps commences, the NPS will consult with the California SHPO and affected American Indian groups, including THPOs as appropriate, in accordance with the implementing regulations of Section 106 of the NHPA found in 36 CFR 800, to identify any "historic property" eligible for or listed on the NRHP, including but not limited to archeological sites, historic resources, and ethnographic resources or traditional cultural properties that could be directly, indirectly, or adversely affected by an action/undertaking found in the selected action. If any previously unknown archeological or other historic property is discovered, the NPS would determine appropriate measures to protect the resource in consultation with the California SHPO, the public, and affiliated Tribes, in accordance with the implementing regulations in 36 CFR 800. In addition, the NPS will consult with the Yurok Tribal Heritage Preservation Officer in lieu of the California SHPO in accordance with 36 CFR 800.2(c)(2), for any trail routes that are within the recognized boundary of the Yurok Reservation.



Potential effects to other resources have been determined to be negligible or minor and will not require mitigation on the part of the NPS to avoid or reduce the effects discussed below.

*Air Quality*—Adverse effects on air quality from the selected action will be localized, temporary, minor in construction areas during the work periods from dust and vehicle or power tool emissions, and negligible outside the project area and over the long-term. Adverse effects on air quality from Alternatives B and C would be slightly greater than under the selected action because there would be more construction under these alternatives.

The West Side Access Road will be open to public use under the selected action (Alternative D) and Alternatives B and C. Use and maintenance of this gravel road generates dust, particularly in the dry season when most visitor use is expected to occur. If dust is severe enough to create a traffic hazard, dust palliative will be applied. More dust would be generated from use of the West Side Access Road under Alternative C because an additional 10 miles would be open to public use. Under the no action alternative (Alternative A), dust will be generated by continued maintenance and administrative use of the road. The effects on air quality from use of the West Side Access Road under the selected action and all other alternatives will be localized, temporary, and minor, but will occur repeatedly over the long-term during the dry season.

Air quality will quickly return to very good to excellent when construction or maintenance is completed under the selected action, or any of the other alternatives.

*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 only potentially significant source of air pollution is from wildfires, which could have significant adverse effects on air quality in the park for the duration of a fire depending on meteorological conditions. Potential adverse effects on air quality from planned fire ignitions in RNSP are negligible to moderate. The North Coast Unified Air Quality Management District 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 planned ignitions 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 Soils and Topography*—Alterations to topography from construction under any of the alternatives will be negligible because sites for proposed trailheads, trails, and backcountry camps have all been chosen to reduce the amount of earthmoving needed to create level surfaces and because the maximum area of soil disturbance at any one site is less than 0.25 acre.

Impacts to soils for construction of trails, trailheads, and backcountry camps under the selected action, and the other alternatives, will occur in narrow linear corridors or in areas of less than 0.2 acres widely spread throughout the park. Under the selected action, 13.3–33.4 acres of soils will be affected by construction of trails, trailheads, and backcountry camps. Between 11.9–28.9 acres of soils would be affected by proposed construction under Alternative A (no action), 14.7–36.7 acres under Alternative B, and 35–87 acres under Alternative C.

Most construction under the selected action will occur in soils previously disturbed by logging or road-building. Alternatives B and C result in the most new disturbance (up to 15.6 acres for a 10-foot-wide corridor in undisturbed soils in old growth forest to construct the East Side Trail). Trails and trailheads will be designed with adequate drainage and will be maintained regularly to minimize erosion of trail surfaces.

Therefore, the adverse effects on soils under any of the alternatives will be localized, long-term, and negligible, especially in comparison to the alterations to topography and damage to soil that resulted from unregulated logging and associated road construction prior to park establishment.

*Cumulative Effects on Soils and Topography*—The original timber management practices (clear-cut tractor logging, road building, and minimal road maintenance) had significant direct adverse effects on soils from initial disturbance and subsequent erosion. Road and landing construction directly altered topography. After logging ceased, significant adverse effects on soils and topography continued from erosion of disturbed soils and road-related slope failures in portions of the project area.

Cumulative effects on soils and topography in other areas of the park from tractor logging, road construction, and road-related erosion have been widespread, long-term, and adverse. These adverse effects are significant and were major factors leading to expansion of the national park in 1978. The watershed restoration program in the national park is reducing the adverse effects on soils and topography by removing unstable roads and restoring topography to resemble original conditions. Soils damaged by clearcut logging and tractor yarding are recovering as vegetation regrows, stabilizing disturbed areas and enhancing soil formation processes.

*Effects on Water Quality, Floodplains, and Wetlands*—There will be no direct effects on water quality, floodplains or wetlands from construction, use or maintenance of backcountry camps or trailheads under the selected action, or any of the other alternatives. No floodplains will be affected by the selected action, or any of the proposals under any of the other alternatives.

Any construction near a perennial stream or anywhere where exposed soils could potentially erode into a perennial stream will be implemented under the BMPs required under the NOAA BO. These BMPs are intended to protect listed fish and their habitat by protecting water quality and stream habitat.

There will be very localized temporary effects on water quality and riparian wetlands from construction under the selected action, and the other alternatives including no action, because some of the trails to be constructed cross perennial streams that require construction of foot bridges. The total area of riparian wetlands that will be affected under the selected action (Alternative D), Alternative A (no action), and Alternative B is estimated to be less than 0.1 acre to construct 12 crossings of perennial streams required for construction of all trails under any of these alternatives. About 0.14 acre of riparian wetlands associated with 31 crossings of perennial streams under Alternative C would be affected.

Therefore, any adverse effects on water quality or riparian wetlands under the selected action, or any of the other alternatives, will be negligible especially in comparison to the cumulative impacts on these resources and processes from past land uses described below under cumulative impacts.

*Cumulative Effects on Water Resources including Water Quality, Floodplains, and Wetlands*—The cumulative adverse effects on water quality, floodplains and wetlands throughout the national park are significant and result from past logging and road building practices that are no longer allowed under current state law and regulations because of the damage caused to watersheds and associated water quality, floodplains, and wetlands.

Water quality in park streams was impaired by sedimentation from road-related erosion from past timber harvest practices prior to park establishment and expansion. Because the project area watershed is now protected in the national park, future actions that might affect water quality are related to park resource management projects, especially watershed restoration projects that mitigate effects of past land use practices. Water quality is gradually improving as watersheds recover and as watershed restoration projects to remove roads are implemented.

Damage to water quality in the Redwood Creek watershed and the Redwood Creek floodplain coincided with both intensive timber harvest and a series of large storms between 1955 and 1983 that were accompanied by widespread flooding and erosion. Land use activities significantly increased erosion above naturally high levels associated with storms. The large number of improperly designed and maintained roads, landings and skid trails in the Redwood Creek watershed causes increased surface erosion and fine sediment production and delivery, and an increased potential for stream diversions, rill and

gully erosion, and road related landslides with corresponding increased in sediment production and delivery into park streams. Key changes in Redwood Creek main stem channel structure over the past 40 years include increases in the volume of stored sediment; decreases in pool numbers and depth; increases in stream width and decreases in stream depth; reduced recruitment of large woody debris; deposition of high levels of fine sediments on the stream bottom; and reduced volumes of large woody debris. The floodplain is gradually recovering as the sediment moves downstream but is still highly altered from its original condition.

Riparian wetlands along Redwood Creek and in some of the more heavily logged tributaries of Redwood Creek have been destroyed or degraded by the original logging and road construction, and the effects of road failures and road-related slope failures. The long-term effect on riparian wetlands in the park relies on the effectiveness of watershed restoration at preventing erosion that would lead to landslides that could bury riparian areas and vegetation with sediment.

*Effects on Vegetation*—No old growth trees of any species or trees larger than 18" diameter at breast height (dbh) will be affected under the selected action or under any of the other alternatives. Vegetation to be removed for construction is primarily understory vegetation that is common throughout the parks and the region and is routinely cleared for maintenance of facilities on an annual basis. Vegetation will grow back to the edge of the maintained corridor within 1-2 growing seasons.

Under the selected action (Alternative D), the acreage of vegetation affected for trail construction would range between 13.3 and 33.4 acres, most of which was previously disturbed by logging or ranching. The overall effects on vegetation in the park from removal of about two acres of previously disturbed vegetation for construction of trailheads and backcountry camps, up to 33.4 acres of understory vegetation in linear corridors between 4 and 10 feet wide, and trees less than 12" dbh for construction of trails will be adverse and negligible.

The total area of park vegetation that would be affected under the other alternatives to construct trails with a disturbance corridor between 4 and 10 feet in width is estimated to be 12-29 acres under Alternative A (no action), 15-37 acres under Alternative B, and 35-87 acres under Alternative C. The overall effect of removal of primarily understory vegetation with occasional small trees throughout the park is adverse and negligible.

*Cumulative Effects on Vegetation*—The most significant cumulative effect on vegetation in the parks occurred prior to park establishment and expansion from the logging of about 50,000 acres of original coniferous forest, mostly in the Redwood Creek watershed. The 48,300 acres of previously clearcut second growth forests in RNSP that are not treated with silvicultural techniques will remain in a degraded condition. Logged areas of the parks will continue to recover although the recovery in some dense second growth stands that were not thinned after replanting will require centuries before the forest re-attains characteristics and functions associated with old growth forest.

Old growth forest and residual old growth and mature trees are protected throughout the parks, including the project area, and are not adversely affected by park actions.

Cumulative adverse effects on vegetation in the parks and the surrounding region result from logging and associated road construction, and residential, commercial, industrial, agricultural, and transportation development and use. Park activities and projects that affect vegetation include second growth management, watershed restoration, restoration of the Bald Hills grasslands and oak woodlands through removal of encroaching Douglas-fir, and fire management. Areas of the park with Port-Orford-cedar are being managed to reduce the spread of Port-Orford-cedar root disease, in cooperation with the U.S. Forest Service and the Bureau of Land Management throughout the range of Port-Orford-cedar. 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. The Sudden Oak Death pathogen has not been detected in the parks at this time.

Over the long-term, there will be a moderate benefit to old growth forest community function in the contiguous old growth stands from thinning adjacent forests under second growth management. The benefit will not be realized for centuries until the thinned forest re-attains the structure of old growth forest. Other park actions have negligible to minor adverse effects on vegetation.

*Effects on Wildlife*—The effects on wildlife under the selected action will be negligible to minor, depending on the size and degree of mobility of a species and its tolerance of human presence and noise disturbance. Impacts from noise and vegetation disturbance for trail construction will occur in narrow linear corridors during daylight hours. The loss of between 13 and 34 acres of vegetation throughout the park disturbed for construction under the selected action will have negligible long-term adverse effects on wildlife populations. The selected action (Alternative D) will affect up to 9 acres of understory vegetation in old growth forest but no old-growth dependent wildlife species will be affected by loss of understory vegetation along a 4- to 10-foot-wide trail corridor. Non-discretionary terms and conditions from the USFWS and NMFS BOs to implement reasonable and prudent measures to avoid and minimize adverse effects on listed wildlife species and to reduce and monitor injury and mortality to listed threatened fish will protect non-listed wildlife and aquatic species. Measures to reduce noise disturbance during nesting seasons include restrictions on the seasons and time of day that work is allowed and noise buffer distances; and limitations on the size of trees that can be removed to avoid or minimize adverse effects on habitat.

The effects on wildlife under the no action alternative (Alternative A), Alternative B and Alternative C are similar to the effects under the selected action, with slightly greater adverse effects under Alternative C because up to 87 acres of vegetation that is wildlife habitat would be removed, compared to up to 29 acres under Alternative A (no action) and 37 acres under Alternative B. The adverse effect on wildlife populations from loss of this amount of habitat in narrow linear corridors and small areas adjacent to existing roads spread throughout the park is negligible.

*Cumulative Effects on Wildlife*—Cumulative adverse effects on wildlife in the parks relate primarily to activities outside the parks including loss or conversion of habitat for agricultural, residential, commercial, and transportation development; mortality from vehicle collisions along high-speed roads; and illegal poaching of elk and deer. These effects are negligible to significant, depending on the species, its degree of mobility and its tolerance of human presence and disturbance. Some individual animals benefit in the short-term from the presence of humans who leave trash that serves as a food source, and from disturbance due to logging, which increases forage for some species as vegetation regrows. However, in the long-term, human food sources have a moderate to significant adverse effect on individual animals that become accustomed to unhealthy food sources or are killed if they become a nuisance or cross highways to get to or search for food. Other park actions that affect wildlife include watershed restoration, second growth forest management, control of non-native plants, fire management, and maintenance of facilities. The cumulative effects on wildlife from park actions in the short-term tends to be adverse, localized, and negligible because much wildlife habitat is still recovering from the adverse effects of logging and road construction prior to park expansion. Park resource management projects have long-term minor to moderate benefits on wildlife species from restoration of habitat and because the parks serve as a refugium from disturbance.

Large tracts of unmanaged second growth throughout the park will continue to be poor quality wildlife habitat for many decades. The adverse effects on wildlife populations are gradually lessening but will persist for centuries as the forest recovers. Wildlife habitat in areas where silvicultural techniques will be used to accelerate recovery of second growth forest will improve more quickly than in untreated second growth forest stands.

*Effects on Rare, Sensitive, Threatened, and Endangered Species*—The selected action was developed in consultation with the USFWS and NMFS to avoid or minimize impacts to listed species to the greatest extent practicable. There will be no effects on listed plant species, including beach layia and western lilies, under any of the alternatives. The selected action for backcountry, trailhead, and trail construction, use,

and or maintenance will not affect western snowy plovers. The selected action may affect but is not likely to adversely affect the bald eagle, brown pelican, and Oregon silverspot butterfly.

The selected action (Alternative D) and the other alternatives, including no action, have the potential to adversely affect marbled murrelets, northern spotted owls and three species of anadromous salmonids (California coastal Chinook [CC Chinook], Southern Oregon/Northern California Coastal coho [SONCC coho], and Northern California steelhead [NC steelhead]). A complete list of all measures to avoid or minimize impacts on listed species under the selected action are found in the BAs prepared by the NPS and associated BOs issued by the USFWS (file number 8-14-2003-1517, dated January 31, 2007) or NMFS (ARN 252422SWR2003AR8825 dated September 17, 2007). In addition to measures developed by the NPS and described in the BAs, the resulting BOs contain non-discretionary Terms and Conditions for implementing reasonable and prudent measures to minimize incidental take of listed species. Measures to protect spotted owls and marbled murrelets include restrictions on level of noise allowed, seasons and time of day that work may be done. Measures to protect coho and Chinook salmon and steelhead trout include actions to protect water quality and aquatic habitat from erosion and sedimentation, and actions to protect fish during instream work.

The selected action is not likely to jeopardize the continued existence of the marbled murrelet or the northern spotted owl. Although there is no designated critical habitat for marbled murrelets in the national park, there is designated critical habitat in the state parks. However, the selected action does not affect that critical habitat and no destruction or adverse modification of that critical habitat is anticipated. Critical habitat for the northern spotted owl has been designated but the action proposed in the TBMP does not affect that area and no destruction or adverse modification of that critical habitat is anticipated.

The selected action will have moderate adverse effects on marbled murrelets and northern spotted owls from noise and disturbance from construction and future use and maintenance of facilities that will be constructed and from use and maintenance of existing trails, trailheads, campgrounds and backcountry camps. The selected action will have moderate adverse effects on marbled murrelets from an increased risk of corvid predation near facilities that will be constructed and near existing facilities. The NPS requested, and the USFWS authorized, incidental take of marbled murrelets and northern spotted owls for new construction under the selected action and for use and maintenance of existing trail-related facilities.

As described in the BO, NMFS found that there would be insignificant or discountable effects on listed fish and their designated critical habitat from construction of trails, trailheads and backcountry camps; retrofit and relocation of a backcountry horse camp; and annual maintenance of these facilities provided these actions are implemented under the minimization measures described in the NPS BA. Footbridge construction under the selected action may affect but is not likely to adversely affect threatened fish because the amounts of sedimentation caused by footbridge construction will be negligible. The selected action may affect but is not likely to adversely affect SONCC coho and NC steelhead because of potential minor disturbance caused by human swimmers in cold pool refugia in Redwood Creek. The selected action may affect but is not likely to adversely affect threatened fish due to some minor disturbance caused by visitors observing spawning fish. SONCC coho critical habitat may be indirectly affected but is not likely to be adversely affected by minor changes caused by potential increased visitor use of the Mill Creek Horse Loop Trail due to negligible amounts of increased sedimentation. A currently unquantifiable, but very small number of SONCC coho salmon redds are likely to be indirectly adversely affected by visitors crossing the Mill Creek Horse Loop Trail north ford and subsequently trampling eggs and pre-emergent fry. This adverse effect is expected to be minor and likely will not occur every year, if at all. NMFS determined that use of the Mill Creek Horse Loop Trail connector will have insignificant or discountable effects on SONCC coho salmon.

*Cumulative Effects on Threatened and Endangered Species*—Almost all activities in RNSP affect federally listed threatened species because the forests, streams, and beaches in the parks are occupied by northern spotted owls, marbled murrelets, western snowy plovers, brown pelicans, coho and Chinook salmon, and steelhead trout. On-going and planned projects and activities for which the NPS consults with either

USFWS or NMFS for potential effects on listed species include road, trail and facility maintenance and construction; watershed restoration; fire management; second growth forest management; non-native plant management; management of vegetation in the Bald Hills; helicopter and off-road vehicle use; and beach management. The NPS has been authorized incidental take of listed species, primarily northern spotted owls, marbled murrelets, and juvenile anadromous salmonids, by the USFWS and/or NMFS for some of these activities. On-going and reasonably foreseeable NPS actions will not jeopardize the continued survival of any listed threatened species.

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

*Effects on Cultural Resources*—Since the precise location of trails, trailheads and backcountry camps to be constructed under the selected action is not known at this time, NPS will conduct consultations under 36 CFR 800 prior to development of each trail, trailhead and backcountry camp. This will include public and tribal consultation as well as consultation with the California SHPO and/or the Yurok THPO. The Advisory Council for Historic Preservation will also be afforded a reasonable opportunity to comment.

The selected action is anticipated to have negligible to moderate adverse impacts on archeological and historic resources, traditional cultural properties and cultural landscapes. Every effort will be made to avoid adverse impacts to cultural resources by routing trails and locating trailheads and backcountry camps away from known resources and sites that might be damaged by construction, maintenance, or visitor use. When avoidance is neither feasible nor prudent and the undertaking might result in adverse impacts, the NPS will determine appropriate mitigation in consultation with the SHPO, THPO and culturally affiliated American Indian group as appropriate.

Visitor use will have negligible effects on cultural landscapes including historic structures. To prevent unintentional moderate or major adverse effects on historic structures from visitor use, trailheads will have signs and brochures available to inform visitors of the value of these resources and information about how to observe and enjoy these structures and their surrounding environments without damaging them.

The no action alternative (Alternative A) has the least potential for adverse effects on cultural resources because the construction that would occur under this alternative would occur in old growth forest or on abandoned logging roads. Old growth forests have low cultural sensitivity compared to other undisturbed areas of the park. Previously logged areas also are areas of low cultural sensitivity because these areas have been heavily disturbed by logging and road building in what were originally old growth forests. Alternatives B and C have greater potential for adverse effects on cultural resources because more construction is proposed under these alternatives.

*Cumulative Effects on Cultural Resources*—On-going and proposed activities in the parks that have the potential to affect cultural resources include fire management, watershed and second growth forest restoration, management of Bald Hills prairies and oak woodlands, management of non-native plants, and maintenance and construction of trails and other facilities. The cultural sensitivity of the coniferous forest where watershed and second growth restoration 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. Invasive non-native plants occur primarily in areas affected by recent human disturbance. Fire management activities in the Bald Hills have the greatest potential to affect cultural resources because the Bald Hills have the greatest concentration of prehistoric and historic resources, including significant cultural landscapes and ethnographic properties. Prescribed fires and fuels management are used to restore and protect known cultural resources in the Bald Hills.

Cultural resource surveys are conducted prior to any work involving ground disturbance. Cultural resources in areas of known cultural sensitivity are protected by avoiding or minimizing ground disturbance. No significant adverse effects to cultural resources are anticipated from any reasonably foreseeable park actions.

*Effects on Visitor Experience and Visual Quality*—Over the long-term, there will be a minor to moderate long-term benefit to visitors from construction of additional trails, trailheads, and backcountry camps. New trails will be constructed at easier grades compared to establishing trails along old roads as was done for many of the older trails in the national park. Trails will avoid low-lying wet areas and bridges will be installed over perennial streams to ensure the trail is usable throughout the year. Accessibility for all populations will be improved by designing barrier-free trails and providing fully accessible backcountry campsites that are barrier-free to the greatest extent possible.

Completion of the Coast-to-Crest Trail links through RNSP will create a significant recreational opportunity with a 2400-mile-long trail loop around California by linking the Coastal Trail to the Little Bald Hills Trail.

Mountain bikers would benefit more under Alternative C than under the other two action alternatives because the proposed backcountry camp at Coyote Creek would be constructed only under Alternative C. Conflicts between hikers and bicyclists on the mountain bike routes to be designated under the selected action are expected to be minimal because the roads to be designated as mountain bike routes are on old roads that are at least 10 feet wide with sufficient sight distance for trail users to see and avoid other users.

Closure of about 4 miles of the Redwood Creek gravel bars to camping to reduce corvid populations to protect marbled murrelets will have adverse effects on some backpackers. Gravel bars along about 6 miles of Redwood Creek will continue to be available for camping.

The selected action will have moderate benefits to visitors from increasing recreational opportunities by adding trails for all trail users, improving the operational characteristics of two trailheads and providing additional backcountry camps. Alternative C would have proportionately greater benefits for recreational trail users because more trails and backcountry camps are proposed under this alternative than under either Alternative B or the selected action (Alternative D). Alternative C would also allow dispersed camping in a large area of the park which would improve the experience for some visitors seeking primitive and unconfined recreational opportunities. The no action alternative (Alternative A) would have the least benefit for visitors because no backcountry camps and only a few new trails would be constructed and the West Side Access Road would not be open to visitor use.

Adverse effects on visual quality from vegetation removal during construction at trailheads, along trail corridors and backcountry camps under the selected action will be negligible because vegetation will regrow after one season. Trails will be established through the most visually appealing areas available along a route, which will be a minor long-term benefit to visual quality and visitor experience.

*Cumulative Effects on Visitor Experience and Visual Quality*—Visual quality in the region varies from superb along the Pacific coastline, in the old growth forests and oak woodlands in the parks, along parts of the Smith River, and in the Siskiyou Mountains and Coast Ranges, to poor in some urban settings and in recent clearcut areas visible from the highways.

Visitor experience within the park will be complemented by continued development of recreational opportunities in communities adjacent to the parks and in the region. Additional trails being planned or developed in Humboldt and Del Norte Counties include a Humboldt Bay Water Trail; a bike trail along Elk Valley Road in Del Norte County; and completion of several segments of the Kelsey Trail in the Smith River NRA adjacent to the park in Del Norte County. In addition, the General Plan amendment for the Mill

Creek watershed now included in Del Norte Coast Redwoods State Park proposes additional recreational activities including hiking, biking, equestrian and motor vehicle access and camping.

Other recreational opportunities in the region around RNSP include sport fishing in the Smith and Klamath Rivers and the ocean; sea kayaking and surfing; whitewater boating on the Smith River; the Smith River Rancheria casino on Highway 101 north of Crescent City; and the Elk Valley Rancheria Casino on Howland Hill Road that will be replaced by a larger casino resort along Highway 101 south of Crescent City; camping, hiking, horseback riding, and mountain biking in RNSP, Six Rivers National Forest, the Smith River National Recreation Area (NRA), and lands managed by the Bureau of Land Management; scenery and wildlife viewing and photography in RNSP, Tolowa Dunes State Park, the national forest, the NRA, and Pelican Bay State Beach and other beaches in Del Norte County; and many additional recreational activities available in Crescent City, Del Norte County, and southern Oregon.

*Effects on Adjacent Communities*—The selected action will have negligible short-term effects on adjacent communities, including the community of Orick and Del Norte County, including the communities of Klamath and Crescent City. Over the long-term, construction of additional trails and improved access for equestrians to the Orick Horse Trail under the selected action will attract trail users to the park. This will be a negligible to minor economic benefit to adjacent communities.

*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, particularly the community of Orick and Del Norte County, especially the communities of Klamath and Crescent City. The most significant recent factor in the economy of Orick is the decline of timber-based economy following the establishment and expansion of Redwood National Park, gradual decrease in timber supply available to local mills, and increased regulation of timber operations to protect watersheds and endangered species. The NPS is providing technical assistance to the community of Orick, and participating with other public and private entities for planning for watershed protection for Redwood Creek, including development of a community wastewater system and restoration of the Redwood Creek estuary. The most significant recent factors affecting the economies of Crescent City and Klamath are the decline of the timber and commercial and sport fishing industries. The commercial and sport fishing industry has been severely affected by declining populations of shrimp, year to year variations in the Dungeness crab and salmon populations, and regulations to protect salmon and other fisheries. The salmon fishery in the Klamath River has been affected by dams and water diversions for agriculture, ocean conditions, and regulations to protect listed salmonid species. The selected action will have no effect on the fishing or timber industries.

*Conclusion*—As summarized above, the effects of the selected action have been considered and determined to be less than significant. These effects have also been considered under the criteria for significance listed in the Council on Environmental Quality regulations (40 CFR 1508.27) and found to be less than significant. Actions for which mitigation can be prescribed, the prescribed mitigation, and the responsible party are summarized in the following table.

**Summary of Effects and Mitigation for Trail and Backcountry Management**

<i>Resource &amp; Effect</i>	<i>Mitigation</i>	<i>Responsible Party</i>
Air Quality: short term adverse effects from construction dust, vehicle emissions; moderate localized adverse effects from use of WSAR in dry season	vehicle emissions regulated to state standards; dust palliative applied to WSAR if traffic hazard results from use	NPS: park vehicle and equipment maintenance; dust palliative
Soils: 13-34 ac total disturbance for	No mitigation for soils previously disturbed by logging and road	NPS: mulching with local materials for erosion control and



<i>Resource &amp; Effect</i>	<i>Mitigation</i>	<i>Responsible Party</i>
construction throughout the park; narrow corridors disturbed for trail construction	construction; best management practices (BMPs) to avoid erosion next to perennial streams.	to speed revegetation
Water Quality: erosion from disturbed soils for construction of trail bridges	Soils disturbance limited to dry periods and other BMPs to avoid erosion next to perennial streams; install bridges to avoid soil compaction and associated erosion next to perennial streams	NPS: implement BMPs
Riparian wetlands: less than 0.1 acre affected for all construction	Minimize disturbance at stream crossings	NPS: minimize impacts through project design
Vegetation: 15-37 acres of understory vegetation and trees less than 12" removed in narrow linear corridors	Limit removal of trees through trail design and lay-out; no old growth trees affected; maximum size of trees removed generally 12" or less	NPS: minimize tree removal through project design
Wildlife: day-time disturbance from equipment and personnel; habitat loss negligible	No mitigation prescribed for disturbance to species tolerant of on-going human disturbance; remove all food scraps and trash to avoid attracting scavengers and habituating wildlife to people and human food sources	NPS: remove food scraps and trash after site work and provide interpretive messages to visitors about keeping human food away from wildlife
Sensitive Species: noise and disturbance to threatened birds; avoid soil erosion next to perennial streams	Noise restriction periods for some locations; daily limited operating periods (DLOP) in portions of the project area; BMPs to protect fish	NPS: comply with all terms and conditions in BOs; BMPs for erosion control to protect fish
Cultural Resources: surveys required during site-specific design.	Avoid known sites to the greatest extent possible; all ground-disturbing activities monitored; work will cease if resources encountered until resources can be evaluated	NPS: conduct surveys; cease work if cultural resources encountered and notify NPS archeologist
Visual Quality and Visitor Experience: short-term effects on visual quality from new soil and vegetation disturbance	No adverse effects on visitor use because facilities are not yet constructed; trails designed to incorporate scenic elements; construction impacts lessened after one growing season	NPS: trails designed to incorporate scenic features; minimize disturbance area and mulch with local vegetation salvaged from disturbed areas for more rapid recovery; salvage and replant ferns

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

The NPS is prohibited by law and policy from taking an action that will impair park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. This section describes potential effects on resources under the selected action and why those effects will not impair park resources or values. The effects and the potential for impairment under the other alternatives are also discussed.

***Non-Impairment of Air Quality and Air Quality Related Values***—Adverse effects on air quality under the selected action will result from localized dust or vehicle emissions from heavy equipment operations for construction affecting 13-34 acres and during maintenance of trailheads and trails using power tools. Reduced air quality from visitor use of the West Side Access Road (WSAR) under the selected action will

be localized, temporary during the dry season and repeated. If the dust creates hazardous driving conditions, a dust palliative or water will be applied. The overall adverse effect on air quality from the selected action is very localized for all activities; short-term during construction and repeated from maintenance, and negligible; and repeated, localized and minor from visitor use of the WSAR. Dust generated by use of the WSAR will not affect any scenic areas or vistas. Therefore, air quality and air quality related values will not be impaired by the selected action.

Under the no action alternative (Alternative A), adverse effects on air quality would result from temporary localized dust or vehicle emissions during routine maintenance and from construction affecting 12-29 acres. These adverse effects are negligible under the no action alternative. Therefore, the no action alternative would not impair air quality or air quality related values in the park.

The overall effects on air quality under Alternatives B and C are slightly greater than under the selected action because Alternatives B and C require more construction than the selected action, which would result in more soil disturbance (15-37 acres under Alternative B and 35-87 acres under Alternative C compared to 13-34 acres under the selected action). The effects would be short-term during construction and localized at work sites. These effects are adverse but negligible. Under Alternative C, an additional 10 miles of WSAR would be open to the public, which would generate more dust than the selected action or Alternative B. However, the dust would be localized, would be produced only during the dry season and would not obscure any vistas or other scenic values. Therefore, Alternatives B and C would not impair air quality or air quality related values in the park.

Under all alternatives, including the selected action and no action (Alternative A), air quality would be adversely affected by dust from maintenance of existing trails and graveled roads that provide access to trails and trailheads and from construction and maintenance of new trails, trailheads and backcountry camps, and by motor vehicle emissions related to access, construction or maintenance. Motor vehicle emissions are minimized by regular vehicle maintenance to meet air quality standards required for vehicle registration. Dust is localized and is greatest on graveled roads during dry periods, primarily between May and October. Alternative A (no action) requires the least construction of new facilities and would not open the West Side Access Road to public use. Alternative C requires the most new construction and would open more of the West Side Access Road to public use than either Alternative B or Alternative D (the proposed action). Alternative B would require less new construction than Alternative C but less than the proposed action. The effects on air quality and air quality related values would be negligible from dust and vehicle emissions and temporary but repeated over the long-term. These effects are adverse but negligible and therefore acceptable.

***Reduced Impairment of Topography and Soils***—The topography of large portions of the project area in the Redwood Creek basin is considered to be impaired by logging and the construction and presence of logging roads and landings. The soils themselves can be considered impaired in those areas where soil profiles have been altered but the effect on the integrity of the soil components is less than the effect of destroying the original placement of soil horizons and loss of soils through erosion.

There would be no major changes in natural topography or landforms for construction of any trail, trailhead or backcountry camp under any alternative.

Total soil disturbance under the selected action will be less than 40 acres throughout the national park, primarily along narrow corridors in previously disturbed soils. The adverse effects on soils will be localized, long-term and negligible, especially in comparison to the alterations to topography and damage to soil that resulted from unregulated logging and associated road construction prior to park establishment. Therefore, the selected action will not further impair the topography and soils in the park.

Impacts to soils for construction of trails, trailheads and backcountry camps under Alternatives B and C would occur in narrow linear corridors or in a few areas of less than 0.2 acres widely spread throughout the park. Alternative C would result in the maximum soil disturbance of any alternative; fewer than 90 acres of

soils throughout the park would be affected. Most construction would occur in soils previously disturbed by logging or road-building. Alternatives A (no action), B and C result in new soil disturbance in old growth forest to construct the East Side Trail (Alternative A—4.1 to 9.5 acres; Alternative B—5.5 to 13.7 acres; and Alternative C—5.0 to 12.5 acres). Alternative C would also require an additional 3.7 miles of new disturbance in old growth forest to construct Trail T. The adverse effects on soils under Alternatives A, B and C would be localized, long-term and negligible, especially in comparison to the alterations to topography and damage to soil that resulted from unregulated logging and associated road construction prior to park establishment. Therefore, Alternatives A, B or C would not further impair the topography and soils in the park.

Significant geological resources will not be affected under the selected action, nor under the other alternatives. Impacts to topography and soils will be limited to narrow linear corridors to construct trails and to very minor grading for trailhead construction under the selected action, and all other alternatives, including no action. Impacts to soils from maintenance of existing facilities and maintenance and construction of trails, trailheads and backcountry camps under the selected action will occur almost exclusively in soils previously disturbed by logging or road construction. Trails and trailheads will be designed with adequate drainage and maintained regularly to minimize erosion of trail surfaces. The adverse effects on soils and topography under the selected action, and any of the other alternatives, will be localized, long-term and negligible. These negligible effects are acceptable.

***Reduced Impairment of Water Quality***—Water quality in Redwood Creek is designated as impaired for sediment and temperature under the EPA 303d TMDL process. Although the TMDL definition of impaired is different than the definition of impairment under NPS policy, the water quality in Redwood Creek is considered impaired under NPS policy and was a primary reason for expansion of the national park in 1978. The selected action will not affect water quality in Redwood Creek either beneficially or adversely, nor would water quality in Redwood Creek be affected by any of the other alternatives. The impaired water quality in Redwood Creek is being reduced through the watershed restoration program in the national park and through restoration and best management practices for projects upstream of the park.

Water quality will be protected under the selected action by implementation of minimization and avoidance measures, erosion control measures and best management practices listed in the NPS BA submitted to NMFS that are designed to avoid or minimize erosion and sediment delivery to protect aquatic habitat for listed threatened fish species. These measures apply to any construction under the selected action that will potentially affect streams occupied by listed fish.

If all perennial stream crossings on trails to be constructed require trail bridges with abutments, less than 0.1 acre of stream banks will be affected for construction of all trail bridges under the selected action. Implementation of the best management practices, reasonable and prudent measures, and Terms and Conditions listed in the NMFS BO will reduce or avoid adverse effects on water quality. Therefore, the selected action will not impair water quality in the park.

The total area affected by construction of bridge abutments under Alternatives A (no action) or B is less than 0.1 acre for all 12 bridges and about 0.14 acre under Alternative C for 31 bridges. Implementation of the best management practices, reasonable and prudent measures, and Terms and Conditions listed in the NMFS BO would reduce or avoid adverse effects on water quality. Therefore, Alternatives A, B or C would not impair water quality in the park.

Adverse effects on water quality from maintenance of existing trails, trailheads and backcountry camps, and from construction or maintenance of facilities under the selected action, or any of the other alternatives, including no action, will be minimized through application of best management practices to avoid or control soil erosion. Any construction near a perennial stream or anywhere where exposed soils could potentially erode into a stream will be implemented under the BMPs required under the NMFS BO. Adverse effects on water quality under the selected action, or any of the other alternatives including no

action, will be minimized by facility design and application of best management practices to control erosion, and will be negligible. Therefore, these adverse effects are acceptable.

***Reduced Impairment of Floodplains and Wetlands***—The floodplain of Redwood Creek and riparian wetlands were impaired by sedimentation resulting from logging and road construction prior to park establishment and expansion. Some riparian wetlands were completely destroyed by road construction and landsliding related to logging and road construction. This impairment is being reduced slowly by watershed restoration within the park and by modern logging practices required under current state and federal regulations to protect water quality.

The selected action will not affect floodplains, nor would any of the other alternatives. Therefore, floodplains or floodplain functions or values will not be impaired under the selected action, nor would there be impairment to floodplain functions or values under the other alternatives.

There will be negligible effects on riparian wetlands under the selected action. These effects result from disturbance to small areas of riparian wetlands for construction of trail bridges across perennial streams. If all perennial stream crossings require trail bridges with abutments, less than 0.1 acre of riparian wetlands would be affected for construction of trail bridges under the selected action. A portion of a trail will be constructed as a boardwalk to provide access through a coastal wetland under the selected action. The boardwalk will be constructed to protect the wetland functions and to provide a location from which to interpret the functions and values of the wetland area. Therefore, the selected action will not create additional impairments to floodplains or wetland functions and values in the park.

If all perennial stream crossings require trail bridges with abutments, the total area affected by construction of bridge abutments under Alternatives A (no action) or B is less than 0.1 acre and about 0.14 acre under Alternative C. Under Alternatives B and C as well as the selected action, a portion of a trail would be constructed as a boardwalk to provide access through a coastal wetland. The boardwalk would be constructed to protect the wetland functions and to provide a location from which to interpret the functions and values of the wetland area. The adverse effects on riparian wetlands from construction of trail bridges under Alternatives A, B, and C would be negligible. Therefore, these alternatives would not create additional impairments to floodplains or wetland functions and values in the park.

Less than 0.1 acres altogether of riparian wetlands along small sections of some trails will be affected by construction of trail bridges under the selected action, and the other alternatives. Adverse effects on riparian wetlands under the selected action will be minimized by facility design and application of best management practices to control erosion, and will be negligible. The other alternatives would have the same negligible effects on riparian wetlands. These adverse effects are acceptable.

***Reduced Impairment of Vegetation Resources***—The logging of the old growth forest in Redwood National Park caused what is now identified as an impairment to park resources. Logging conducted between park establishment in 1968 was described in the park expansion legislation as a “derogation of the values, and the purposes for which the park was established...” and was directly responsible for the expansion of the park in 1978. The vegetation has regrown but the ecological characteristics and functions of the original old growth forest continue to be impaired by the logging. The impaired condition will persist for centuries while the forest regrows and the watershed recovers. The impairment is being reduced more quickly in areas that are being restored through the watershed restoration and second growth restoration programs.

Under the selected action, 33.4 acres of vegetation distributed throughout the park will be affected for construction and maintenance of new trails, trailheads and backcountry camps. Most of this vegetation is in areas that were previously disturbed by logging or road construction. No old growth trees or trees greater than 18 inches dbh will be removed for construction. Vegetation to be removed is primarily understory vegetation that is common throughout the parks and is that is regularly cut for routine maintenance in the park and throughout the region. Vegetation within the construction areas will regrow

within 2 years and will be completely recovered within 5 years. Therefore, the selected action will not impair vegetation resources in the park or cause additional impairment.

The maximum amount of vegetation that would be affected by construction and maintenance under the no action alternative (Alternative A) would be 28.9 acres. Under Alternative B, a maximum of 36.7 acres of vegetation would be affected by construction and maintenance. Under Alternative C, a maximum of 87.2 acres would be affected by construction and maintenance. Alternatives A (no action), B and C result in new disturbance in old growth forest to construct the East Side Trail. Alternative A would require new disturbance of 4.1 to 9.5 acres in old growth forest; Alternative B—5.5 to 13.7 acres; and Alternative C—5.0 to 12.5 acres. Alternative C would also require an additional 3.7 miles of new disturbance in old growth forest to construct Trail T. No old growth trees and no trees greater than 18 inches dbh would be removed for construction in old growth or any other vegetation type. Vegetation to be removed would be primarily understory vegetation that is common throughout the parks and is that is regularly trimmed for routine maintenance in the park and the region. Vegetation within the construction corridor would regrow within 2 years and would be completely recovered within 5 years. Therefore, Alternatives A (no action), B and C would not impair vegetation resources in the park or contribute to the existing impairment.

Most of the vegetation that will be affected for construction under the selected action has already been disturbed by logging. Only understory vegetation in undisturbed areas or in old growth forest will be affected by construction. No old growth trees will be affected under any of the alternatives. No trees greater than 18" dbh will be cut for any new construction under any of the alternatives and most trees to be removed will be 12 inches or less in diameter. Vegetation removed for trail construction will be in a 4-to-10-foot wide corridor that will become narrower as vegetation regrows along the edges of the trail. The adverse effect on vegetation from clearing and maintaining 4-to-10-foot wide trail corridors primarily in previously disturbed vegetation throughout the park will be negligible under any of the alternatives. These adverse effects are acceptable.

***Non-Impairment of Wildlife Resources***—Individuals of small and less mobile wildlife species, primarily invertebrates and rodents, will be displaced or killed by removal of 34 acres of vegetation for construction under the selected action. Most wildlife will move away from construction sites during daylight when construction occurs and will return to the area when the disturbance ceases. Loss of these individual animals will not adversely affect the overall population of any of these species in the parks as a whole. The effect on wildlife will be negligible. Therefore, the proposed action will not impair park wildlife resources.

The effect on wildlife occupying areas where construction would occur under the other alternatives (up to 28.9 acres under Alternative A; 36.7 acres under Alternative B; and 87.2 acres under Alternative C) would be similar to the effects under the selected action. Therefore, none of the alternatives to the selected action would impair park wildlife resources.

The loss of wildlife habitat in 34 acres of vegetation in a variety of habitats affected by construction under the selected action will have a negligible long-term adverse effect on wildlife populations. Non-discretionary terms and conditions from the USFWS and NMFS BOs to implement reasonable and prudent measures to avoid and minimize adverse effects on listed wildlife species and to reduce and monitor injury and mortality to listed threatened fish will also protect other wildlife and aquatic species. Limitations on the size of trees that can be removed will avoid or minimize adverse effects on old growth and mature forest. These minimization measures will reduce adverse effects on wildlife from construction, maintenance and/or use of trails, trailheads and backcountry camps to negligible. The effects on wildlife from vegetation removal on up to 28.9 acres under Alternative A; 36.7 acres under Alternative B; and 87.2 acres under Alternative C would also be negligible. These adverse effects on wildlife are acceptable.

***Non-Impairment of Threatened and Endangered Species***—Designated critical habitat for three species of listed fish may be affected under all alternatives, including the selected action and no action (Alternative A), but not adversely affected. Therefore, none of the alternatives, including the selected action, has the potential to impair designated critical habitat for listed fish species.

The NPS determined that there would be no effect to CC Chinook or their critical habitat, SONCC coho or their critical habitat and NC steelhead due to the construction of trails (except for footbridges as described below), trailheads and backcountry campgrounds under the selected action. Footbridge construction under the selected action may affect but is not likely to adversely affect CC Chinook and their critical habitat, SONCC coho or their critical habitat and NC steelhead or their critical habitat due to negligible amounts of sedimentation caused by footbridge construction.

The selected action may affect but is not likely to adversely affect SONCC coho and NC steelhead because of potential minor disturbance caused by human swimmers in cold pool refugia in Redwood Creek.

The selected action may affect but is not likely to adversely affect CC Chinook, SONCC coho and NC steelhead due to some minor disturbance caused by visitors observing spawning fish.

SONCC coho critical habitat may be indirectly affected but is not likely to be adversely affected by minor changes caused by potential increased visitor use of the Mill Creek Horse Loop Trail due to negligible amounts of increased sedimentation.

A currently unquantifiable, but very small number of SONCC coho salmon redds are likely to be indirectly adversely affected by equestrians crossing the Mill Creek Horse Loop Trail north ford and subsequently trampling eggs and pre-emergent fry. This adverse effect is expected to be minor and likely will not occur every year, if at all. NMFS determined that use of the Mill Creek Horse Loop Trail connector will have insignificant or discountable effects on SONCC coho salmon.

The quality of anadromous salmonid spawning habitat in Redwood Creek is considered to be impaired by excessive sedimentation, loss of large woody debris and high temperatures. Rearing habitat and ecological processes in the Redwood Creek estuary have been impaired by the presence of flood control levees on lower Redwood Creek.

The selected action will not result in additional sedimentation to Redwood Creek nor alter the level of impairment created by other activities described under soils, topography and water resources. The selected action will have insignificant or discountable effects on listed fish and their designated critical habitat provided these actions are implemented under the avoidance and minimization measures described in the NPS BA and the NMFS BO. Therefore, the selected action will not impair populations of threatened fish or their designated critical habitat.

Alternative A (no action), Alternative B and Alternative C would not result in additional sedimentation to Redwood Creek nor alter the level of impairment created by other activities outlined above. Alternative A (no action), Alternative B and Alternative C would have insignificant or discountable effects on listed fish and their designated critical habitat provided these actions are implemented under the avoidance and minimization measures described in the NPS BA on the proposed action, as described in the NMFS BO cited above. Therefore, Alternative A (no action), Alternative B and Alternative C would not impair threatened fish or their designated critical habitat.

No designated critical habitat for northern spotted owls, marbled murrelets, or western snowy plovers will be destroyed or adversely modified under the selected action, nor under any of the alternatives. None of the alternatives, including the selected action, will affect beach layia, western lily or western snowy plovers.

Oregon silverspot butterflies may be affected but not adversely affected by the loss of a negligible amount of unoccupied suitable habitat. California brown pelicans may be affected but not adversely affected by short term, temporary, human-caused disturbance of birds in low quality loafing habitat. Two known bald eagle territories may be affected but not adversely affected by negligible amounts of visual disturbance caused by visitors and staff using the existing McArthur Creek Horse and Mill Creek Horse Loop Trails.

Thus, the effects of the selected action on Oregon silverspot butterflies, California brown pelicans and bald eagles will be negligible to minor. The selected action will not cause an impairment to these species.

The selected action will not remove or degrade suitable marbled murrelet nesting habitat. Nesting murrelets associated with 3,763 acres of suitable habitat will be subject to harassment from construction, use and maintenance of new facilities under the selected action and existing facilities throughout RNSP, including facilities in the three state parks that are part of RNSP. Nesting murrelets associated with 11,539 acres of suitable habitat will be subject to increased predation risk. Ninety percent of this increased predation risk is associated with recreational use of existing facilities rather than new facilities that will be constructed under the selected action. The majority of the increased predation risk is associated with the existing campgrounds in the state parks. The visitor education program that has been implemented and the corvid management strategy are intended to decrease corvid predation of marbled murrelets near existing park facilities, including the state park campgrounds. If target reductions in corvid densities are not achieved by 2012, the NPS will consider more intensive corvid management techniques.

Based on the above effects that will occur under the selected action, the NPS has been authorized incidental take for harassment of murrelets associated with 3,129 acres of occupied nesting habitat due to operation and use of existing facilities; harassment associated with 384 acres of occupied nesting habitat due to operation and use of new facilities annually from the date of construction through 2017; harassment associated with 250 acres of occupied nesting habitat due to the use of chainsaws to clear a maximum of two fallen trees from the route of the East Side Trail under the selected action; harm associated with 10,289 acres of occupied nesting habitat due to an increased risk of corvid predation near existing facilities (primarily state park campgrounds in RNSP); and harm associated with 1,250 acres of occupied murrelet nesting habitat due to an increased risk of corvid predation near new facilities.

The selected action will result in removal of 24 acres of suitable northern spotted owl nesting and roosting habitat and will degrade 14.5 acres of suitable habitat. The USFWS anticipates that these impacts are insignificant because of the large amount and quality of the suitable nesting and roosting habitat that will remain in the project area. Nesting spotted owls associated with 2,475 acres of nesting and roosting habitat will be subject to harassment. Ninety percent of this increased predation risk is associated with future use of existing facilities and not facilities that will be constructed under the selected action. New trail routes will not be located within 150 feet of any known historic or active spotted owl activity center to protect nests from disturbance. If an active owl nest is located within visual distance of the East Side Trail alignment under the selected action, the trail will be closed from February 1 through July 9 or rerouted.

Based on the above effects as a result of implementing the selected action, the NPS has been authorized, incidental take of an undetermined number of northern spotted owls. Incidental take is expected to be in the form of harassment associated with 2,059 acres of unsurveyed nesting and roosting habitat due to the operations and use of existing facilities; harassment associated with 166 acres of suitable, unsurveyed spotted owl habitat that will be subject to vehicle noise when the 6.5-mile segment of the West Side Access Road is opened to the public; and harassment associated with 250 acres of unsurveyed nesting and roosting habitat due to use of chainsaws to clear a maximum of two fallen trees from the route of the East Side Trail.

The USFWS determined that the level of anticipated incidental take of marbled murrelets and northern spotted owls from implementation of the proposed action (Alternative D) is not likely to result in jeopardy to the marbled murrelet or the northern spotted owl or destruction or adverse modification of critical habitat for these species. Therefore, the selected action will not result in an impairment to threatened bird species nor will the selected action cause an impairment to designated critical habitat for these species.

Construction of the East Side Trail under the other alternatives would affect as many as 9.5 acres of understory vegetation in old growth forest for the 8.5 miles of trail under Alternative A (no action); up to 15.6 acres of understory vegetation in old growth forest to construct 11.5 miles of the East Side Trail alignment proposed under Alternative B; and up to 15.5 acres of understory vegetation in old growth forest

to construct 10.3 miles of the East Side Trail alignment under Alternative C. Under the selected action, the East Side Trail will pass through about three miles of undisturbed old growth forest and adjacent to an additional three miles of old growth. Discussions with the USFWS during consultations on the full range of alternatives in this plan indicated the potential for impairment to threatened birds species, including northern spotted owls but primarily marbled murrelets, from increased threat of predation and habitat degradation associated with construction of the East Side Trail under Alternative A (no action), Alternative B or Alternative C. The USFWS indicated that construction of the East Side Trail through old growth forest had the potential to jeopardize the continued existence of marbled murrelets from significant adverse effects from construction, use and maintenance of a major trail through undisturbed old growth. The alignment of the East Side Trail under Alternative D was developed in consultation with the USFWS to minimize adverse effects on murrelets from new disturbance in large blocks of old growth forest compared to the East Side Trail alignments in Alternatives A, B and C. Therefore, Alternative A (no action), Alternative B and Alternative C have the potential to create an impairment to a threatened species in Redwood National Park.

All alternatives, including the selected action and no action (Alternative A), are expected to have negligible to minor adverse effects on listed bird species from habitat loss and disturbance of between 12-87 acres of habitat for construction, maintenance and use of new facilities. Adverse effects from noise disturbance are expected to be negligible to minor under the selected action because noise effects will be avoided or minimized by restricting human-caused disturbance and noise to periods when the birds are not as susceptible to disturbance. It is anticipated that the trail construction described in this plan under the selected action will have moderate adverse effects on northern spotted owls and marbled murrelets due to the suitable habitat for these species that will be affected by construction, maintenance and use of trails in old-growth forest. The overall effect on marbled murrelets and northern spotted owls from the selected action will be moderately adverse due to increased threat of predation and occasional noise disturbance in suitable nesting habitat. Most of the adverse effects on marbled murrelets and northern spotted owls from threat of predation and occasional noise disturbance result from use of existing facilities, especially the developed campgrounds in the state parks that are included within the boundary of Redwood National Park. One of the nondiscretionary Terms and Conditions of the USFWS BO is implementation of a Corvid Management Strategy and Monitoring Summary described in the NPS BA (Bensen 2006a, NPS 2007) that requires an adaptive management approach to reduce the density of corvids in and around park facilities if monitoring shows that corvid density continues to increase. The visitor education and corvid monitoring elements of the Corvid Management Strategy are being implemented. Therefore, the moderate adverse effects on listed threatened wildlife species under the selected action are acceptable.

There would be more new development in blocks of undisturbed old growth forests under the no action alternative (Alternative A), Alternative B and Alternative C than under the selected action. The selected action was developed in consultation with the USFWS to minimize adverse effects on marbled murrelets and northern spotted owls from the increased threat of predation and occasional noise disturbance in suitable nesting habitat. The NPS has determined that there is a potential for impairment to populations of listed threatened birds under Alternatives A, B and C. Therefore, potential adverse effects on marbled murrelets and northern spotted owls under Alternatives A, B and C are considered to be unacceptable.

Construction proposed under the selected action, or any of the other alternatives, may affect but is unlikely to adversely affect listed fish. NMFS found that there will be insignificant or discountable effects on listed fish and their designated critical habitat under the selected action provided the action is implemented under the minimization measures described in the NPS BA. Alternatives A (no action), B and C would have similar effects on listed fish as those under the selected action because proposed facilities are not located near fish-bearing streams and because facility design and best management practices for construction avoid or minimize adverse effects on stream habitat. Therefore, any adverse effects under the selected action will be negligible or minor and will be acceptable.

***Non-Impairment of Cultural Resources***—No adverse effects to historic properties are anticipated from maintenance or use of trails, trailheads, or backcountry camps under any of the alternatives, including the



selected action and the no action alternative (Alternative A). Therefore, there will be no impairment to cultural resources for use or maintenance of trails, trailheads, or backcountry camps under the selected action or the other alternatives.

See Appendix H for a summary of potential effects on historic properties. Some actions under all alternatives have the potential to adversely affect historic properties. When site-specific planning commences in areas where historic properties might be adversely affected, the NPS will determine if the undertaking would affect historic properties. If historic properties would be affected, the NPS would initiate consultation with the SHPO, or THPO if appropriate, and determine how to protect historic properties. Trails, trailheads and backcountry camps to be constructed under the selected action will be sited to avoid direct adverse effects to historic properties. Therefore, there will be no impairment to cultural resources under the selected action or any of the other alternatives.

Implementation of elements of the selected action will require site-specific surveys and consultation with the SHPO or THPOs as appropriate. Any adverse effects to historic properties will be avoided, or mitigated as determined through consultation with the SHPO, or THPOs as appropriate, to ensure that any impacts will be acceptable.

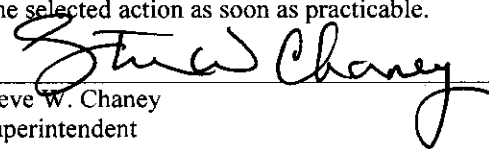
**Non-Impairment of Visual Quality**—None of the alternatives, including no action and the proposed action, will adversely affect scenic resources or visual quality in the park. Therefore, the selected action will not cause an impairment to visual quality and scenic resources.

#### **Basis for Decision**

Based on the environmental assessment, together with consideration of minimal public comment 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 Alternative D, which was identified as the proposed action in the environmental assessment. Implementing this action is necessary to provide appropriate opportunities for use and enjoyment of Redwood National Park and will have no effect on park restoration projects intended to reduce impairment of watersheds resulting from land uses that occurred prior to establishment and expansion of the park.


It is the determination of the National Park Service that the selected action in Redwood National Park to construct 8 hiking trails; maintain 2 additional existing park roads as bicycle routes; construct 2 new and redesign 2 existing trailheads; open 6.5 miles of the West Side Access Road to public use; close 4 miles of the Redwood Creek gravel bars to dispersed camping; and implement a permit system for backcountry camping does not constitute a major federal action significantly affecting the quality of the human environment, nor are these actions without precedent or similar to ones that normally require an environmental impact statement. Therefore, in compliance with the National Environmental Policy Act, the National Park Service will not prepare an environmental impact statement, and will proceed with implementation of the selected action as soon as practicable.

Recommended:

  
Steve W. Chaney  
Superintendent  
Redwood National Park

6-25-09  
Date

Approved:

  
Jonathan B. Jarvis  
Regional Director  
Pacific West Region  
National Park Service

6/25/09  
Date