

**Finding of No Significant Impact
Streelow Creek Trail Improvements
Redwood National Park
Humboldt County, California
May 2010**

This Finding of No Significant Impact (FONSI) should be attached to the Streelow Creek Trail Improvements Environmental Assessment (EA) dated March 2010. This FONSI together with the EA constitute a complete record of the conservation planning and environmental impact analysis process for this proposal. There are no changes to the EA or to the selected action as a result of public review.

The NPS will implement as its selected action *Alternative 2: Improve Streelow Creek Trail*, which was identified in the EA as the proposed action and the environmentally preferred alternative. The selected action is one of two alternatives presented in the EA; the no action alternative was also considered.

Under the selected action, the NPS will make improvements to the Streelow Creek Trail, a hiking and bicycling trail that was established on an old logging road that is deteriorating. Half of the road will be stabilized and upgraded for access to future watershed restoration sites. The other half of the road will be converted to a narrower trail by removing unstable road fill to prevent future damage to the creek, which contains spawning habitat for threatened fish.

The legislation establishing (PL 90-245) and expanding (PL 95-250) Redwood National Park directs the NPS to rehabilitate areas within the park "contributing significant sedimentation because of past logging disturbances and road conditions, and to the extent feasible, to reduce the risk of damage to streamside areas..." (16 USC 79j). Since 1978, the NPS has been conducting watershed restoration activities in accordance with the legislation. This project is fully consistent with the legislative direction.

The Streelow Creek Trail Improvements EA is tiered off the Redwood National and State Parks 1999 General Management Plan/General Plan, Final Environmental Impact Statement / Environmental Impact Report (GMP/EIS). The GMP described the program to remove or upgrade abandoned logging roads to reduce the potential for erosion at stream crossings and from unstable road segments. The selected action will be implemented as part of the national park watershed restoration program described in the GMP.

The GMP included the following natural resource management goals and strategies that are relevant to this project intended to protect habitat for threatened fish by removing a failing road:

- Protect and preserve the natural resources of the parks.
- Restore lands, ecosystems, and processes that have been altered by modern human activities.
- Protect threatened species.

Purpose and Need for Streelow Creek Trail Improvements

The Streelow Creek Trail is a 1.8-mile-long hiking and bicycle trail established on old logging roads adjacent to the creek. The existing trail has holes and slumps in the road bed due to poor surface drainage, and stream crossings are failing due to under-sized and worn drainage structures.

The trail is bisected by the North Fork of Streelow Creek. A trail bridge was installed across the North Fork in summer 2008 to replace failing culverts that threatened the long-term stability of the trail. West of the North Fork trail bridge, the road is no longer accessible to motor vehicles and is used only as a trail. East of the North Fork, the road is used both as the Streelow Creek Trail and for administrative vehicle access to areas where watershed restoration is planned.

Logging in the Streelow Creek watershed and maintenance of logging roads ceased upon creation of Redwood National Park in 1968. Numerous locations along the old logging roads that serve as the Streelow Creek Trail are failing and have the potential to deliver sediment directly into Streelow Creek. Drainage structures along the roads are too few in number and too small to accommodate high flow events, and thus do not effectively protect water quality and aquatic habitat from run-off of sediment from road surfaces and stream crossings.

The failing roads and associated drainage structures need improvements to avoid sediment delivery into a salmon spawning stream and to ensure that the hiking and bicycle trail remains available for safe and enjoyable visitor use.

The purpose of the project is treat old failing logging roads to prevent sediment delivery into Streelow Creek and to improve visitor safety and experience by providing a stable and level trail surface. The project is needed to protect three species of salmonids listed as threatened, to improve the safety and experience of park visitors who use the Streelow Creek Trail, and to ensure continued park administrative access for future watershed restoration projects.

Selected Action

The selected action is *Alternative 2: Improve Streelow Creek Trail* which is identified in the EA as the proposed action. There are no changes in actions, mitigations, or other key elements of the proposed action described in the EA.

Under the selected action, the NPS will convert the westerly 0.9-mile of road to a trail and upgrade the easterly 0.9-mile of road to current standards for administrative vehicle use.

The 14-foot-wide road west of the North Fork will be converted to a 6-foot-wide trail by excavating road fill from the outer edge of road. Three stream crossings will be excavated to restore the original channel form. About 7,240 cubic yards of road fill will be excavated from the stream crossings and road segments. Trail bridges will be installed at the deeper crossings. Heavy equipment needed for the road-to-trail conversion will access the work area via Davison Road.

East of the North Fork, the 14-foot-wide road will be upgraded to current standards for unpaved administrative roads. Three culverts will be replaced. Three new culverts will

be installed. Surface drainage will be improved by outsloping the road, installing rolling dips (which allow drainage but can be driven across), and eliminating or cleaning existing inboard ditches. About 4,380 cubic yards of road fill will be excavated from stream crossings and adjacent road segments. Heavy equipment will access the work area via the northeast end of Davison Trail, which was established on an old logging road along Prairie Creek.

Rock will be applied as needed to provide a stable road and trail surface. Excavated fill will be moved to a stable location away from the stream and contoured to blend with the surrounding topography.

About four acres of small trees and understory brush will be cleared for the road-to-trail conversion, and about two acres of vegetation will be cleared for upgrading the eastern section of road. Some vegetation will be chipped or lopped and scattered for mulch and erosion control of exposed soils. Several hundred trees will be removed along the edges of the road and at the stream crossings. Trees average 8-12 inches diameter at breast height (dbh); the largest trees to be removed are alders less than 24 inches dbh. The contractor who clears the trees will be allowed to remove excess trees of all sizes to reduce fuel accumulations and associated fire hazard, and to offset costs of clearing.

Seasonal work restrictions to protect endangered species limit certain types of work to specific dates or conditions, e.g. September 16 to January 31 to reduce disturbance to threatened bird species throughout nesting phases, and low-flow periods to October 15 to protect threatened fish during spawning or from sediment eroding into the stream. The project will be phased under these restrictions and is expected to take at least two years because of the short construction seasons. The trail will be closed during construction.

Alternatives Considered in the Environmental Assessment

The March 2010 EA described two alternatives:

- Alternative 1: No Action
- Alternative 2: Improve Streelow Creek Trail

Under the No Action alternative (Alternative 1), the NPS would perform regular but minimal maintenance of the existing culverts by periodically removing debris that accumulates at the culvert inlets. Culverts would be replaced when failure is imminent. Holes and slumps in the trail surface would be marked as hazards to warn hikers and bicyclists and repaired if the trail becomes impassable.

Environmentally Preferred Alternative

The environmentally preferred alternative is the one that best meets the criteria identified in Section 101 of the National Environmental Policy Act (NEPA) as outlined below.

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
- Preserve important historic, cultural and natural aspects of our national heritage.
- Enhance the quality of renewable resources.

The NPS has determined that *Alternative 2: Improve Streelow Creek Trail* (the selected action) is the environmentally preferred alternative. This alternative will reduce the threat of sedimentation to streams, rehabilitate watersheds damaged by logging, and protect three threatened anadromous salmonid species and designated critical habitat for two of these species by

- restoring the original topography of stream channels and banks by removing stream crossings,
- reducing the threat of sediment delivery to streams from unstable road fill, and
- improving water quality by reducing input of fine sediment.

The selected action will improve visitor safety and experience by stabilizing the old logging roads that are used as the hiking and bicycle trail.

The no action alternative is not the environmentally preferred alternative because the potential for stream crossing and road failures would persist. Stream crossings and road segments would continue to erode gradually or fail catastrophically during a large storm. Sediment would continue to be delivered to streams either slowly through gradual erosion or from large-scale slope, culvert, or stream crossing failures. The sediment delivered to streams would move downstream and degrade the quality of habitat for threatened salmonid species in Streelow and Prairie Creeks.

Public Involvement

This project is similar to all watershed restoration projects that have been conducted in the park since 1978. Watershed restoration was a major topic in the 1999 GMP/EIS, which received extensive public review beginning with scoping in 1996 and continuing through 2000, when the signed Record of Decision was distributed to everyone who commented on the draft EIS. In June 2006, the NPS released an environmental assessment for a large-scale watershed restoration project in Lost Man Creek, a tributary of Prairie Creek located a few miles east of the Streelow Creek project site. Comments on the GMP and the Lost Man Creek project expressed support for watershed restoration projects that reduce sediment threats to protect water quality and improve habitat for endangered species, especially salmonids.

The selected action is similar to the Lost Man Creek watershed restoration project and to projects completed in 2008 in the Streelow Creek watershed and 2009 in the North Fork of Lost Man Creek in which culverts at stream crossings were replaced with bridges to reduce sedimentation associated with the road fill around deteriorating culverts, improve fish passage to upstream spawning streams, and provide for a safe and enjoyable visitor experience. No public comments were received on the 2007 North Fork Streelow Creek bridge EA or the 2009 North Fork Lost Man Creek bridge EA. These types of project to protect and restore salmonid habitat are common in the local area and the north coast region and are supported by agencies, stakeholders, and the general public.

Public comment received on the watershed restoration proposal in the 1999 GMP/EIS, the Lost Man Creek restoration project, and other similar projects in and around the parks and in the region directed at restoration of salmonid habitat indicates broad public support for such projects. Therefore, no scoping was conducted specifically for this

project. No critical environmental issues or information gaps were identified in the comments received on the EA.

The impact topics addressed in this EA are the same as those addressed in the earlier environmental assessments for the bridge installations on the North Fork of Streelow Creek and the North Fork of Lost Man Creek, and watershed restoration in Lost Man Creek.

The EA was available for review March 18–April 23, 2010. Printed copies of the EA were sent to 17 elected officials, agencies, organizations, and individuals, and to five local libraries. Letters announcing that the EA was available on the Internet and at park offices and local libraries were sent to 39 local elected officials, agencies, organizations, and individuals; and 20 letters were sent to affiliated Tribes. Three individuals received e-mails announcing the EA was available for review. A press release was sent to the park media list, which includes local newspapers, radio, and television stations.

Four comments were received on the EA (two via e-mail, and two in writing.) Three comments expressed support for the project. One comment suggested that the entire road be converted to a trail, rather than upgrading half the road for access by heavy equipment for future watershed restoration projects. The NPS is committed to completing additional watershed restoration projects in areas where road failures would cause damage to streams with good spawning habitat and relatively healthy populations of threatened fish species. This primary purpose of this project is watershed restoration to reduce erosion adjacent to a stream used for spawning by threatened salmonids. Conversion of the entire road to a trail would remove access to another portion of the watershed that is scheduled for future watershed restoration. One comment related to loss of access for bicyclists due to closure of the trail during construction and offered suggestions for an alternate route for bicyclists as well as a suggestion for a bridge surface to improve safety. Temporary closure of the trail is an unavoidable adverse effect that cannot be mitigated. The trail will become unusable during heavy equipment operations, and visitor safety would be compromised by allowing visitor use when equipment is operating. The suggested alternate trail route is in Prairie Creek Redwoods State Park; the NPS cannot authorize a different type of trail use in a state park. The NPS will explore options for surfacing of trail bridges to improve safety for all trail users. The California North Coast Regional Water Quality Control Board (Water Board) asserted that the project requires a Clean Water Act permit from the U.S. Army Corps of Engineers and certification from the Water Board, and that the California Environmental Quality Act applies to this project. The U.S. Army Corps of Engineers did not submit a comment that this project requires a permit under the Clean Water Act. The California Environmental Quality Act does not apply to projects conducted by a Federal agency on Federal lands.

Floodplain and Wetland Executive Orders

The NPS carries out its responsibilities to manage floodplains and wetlands in compliance with Executive Orders 11988 "Floodplain Management" and 11990 "Protection of Wetlands" under procedures described in Director's Orders #77-1 Wetland Protection and #77-2 Floodplain Management and their associated implementation manuals. A Statement of Findings (SOF) for effects to Floodplains and Wetlands was not prepared for this project. Actions designed specifically for the purpose of restoring degraded natural wetland, stream, riparian, or other aquatic habitats or ecological

processes are exempt from the NPS requirement to prepare a wetland SOF. Actions located in floodplains that involve little physical development and do not involve overnight occupation, including foot trails in non-high hazard areas, are exempt from the NPS requirement to prepare a floodplain SOF. The selected action will occur adjacent to but not in a floodplain, and will remove old structures that degrade the natural floodplain and wetland values associated with Steelelow Creek and its tributaries, and help restore natural floodplain and wetlands functions and values by restoring original hydrological patterns.

Removal of Woody Biomass

In 2005, the Department of the Interior published a final rule (48 CFR Parts 1437 and 1452) under the authority found in the NPS Organic Act (16 USC 1) outlining procedures to allow Service contractors the option to remove woody biomass by-products generated as a result of Department land management activities whenever ecologically appropriate. Ecological benefits of removing woody biomass include reduced threat of wildfire, and improved forest health, wildlife habitat, and watershed protection. On the westerly portion of the project where the 14-foot-wide road will be converted to a 6-foot-wide trail, about 195 trees per acre will be removed. Where the road will be graded and graveled east of the North Fork, about 44 trees per acre will be removed. The contractor will be allowed to take trees large enough to be merchantable to defray the costs of tree clearing. Most trees to be removed are in the 8-12 inch diameter size class.

Consultations with other Agencies

Endangered Species—Based on discussions of potential impacts of the project to listed terrestrial and aquatic species and a field review of the project with the U.S. Fish and Wildlife Service (USFWS) and the U.S. National Oceanic and Atmospheric Administration (NOAA) Fisheries aka National Marine Fisheries Service (NMFS) on February 19, 2009, informal consultation under Section 7 of the Endangered Species Act was conducted with USFWS and a formal consultation was conducted with NMFS.

The USFWS issued a letter of concurrence (file number 8-14-2009-3622-81331-2009-I-0105) dated June 9, 2009 which agreed with the NPS determination that the project may affect but is not likely to adversely affect northern spotted owls and marbled murrelets.

NMFS issued a Biological Opinion (file number 151422SWR2009AR00481 dated February 8, 2010) documenting that the selected action is not likely to jeopardize the continued existence of SONCC coho salmon, CC Chinook salmon, or NC steelhead; and is not likely to result in the destruction or adverse modification of designated critical habitat for SONCC coho salmon or NC steelhead. NMFS determined that effects to salmonids will primarily occur by electroshocking, dewatering, harassment, and increased turbidity during placement of temporary stream diversions. An incidental take statement included with the opinion includes required measures and terms and conditions that are expected to reduce incidental take of these species as a result of the selected action.

The NPS prepared biological assessments and completed consultations with NMFS for potential effects to listed fish species throughout the park from annual and periodic road maintenance (NMFS biological opinion and letter of concurrence 151422SWR02AR6347, March 2003, updated August 4, 2008, file number 151422SWR2005AR00575). The NPS requested incidental take for California Coastal Chinook salmon, Southern Oregon/Northern California Coasts coho salmon, and

Northern California steelhead under the NPS biological assessment first prepared in 2003 for the Annual and Periodic Road Maintenance program, and the 2006 addendum. NMFS authorized an unquantified amount of take based on miles of stream affected under the 2008 BO and letter of concurrence (file number 151422SWR2005AR00575 dated August 4, 2008.)

Cultural Resource Consultations

NPS staff presented the project to the Yurok Tribe's Culture Committee meeting on February 27, 2009. The committee had no specific comments or concerns.

The National Historic Preservation Act of 1966 requires federal agencies to consult with the state historic preservation officer (SHPO) if an undertaking would have the potential to affect properties listed or eligible for listing on the National Register of Historic Places.

The NPS notified the SHPO and Yurok Tribal Heritage Preservation Officer (YTHPO) in correspondence dated June 11, 2009 that an environmental assessment was being prepared and that preparation of the EA would be used to comply with Section 106 of the National Historic Preservation Act. In accordance with section 800.8 of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), the letter notified the SHPO and YTHPO in advance of the NPS intention to use the EA to meet its obligations under Section 106.

On December 21, 2009, the NPS submitted a cultural resource inventory and assessment report on the project prepared under contract by the Yurok Tribe to the SHPO seeking concurrence that NPS had taken sufficient measures to identify resources eligible for or listed on the National Register of Historic Places within the project area of potential effect and that no historic properties are expected to be affected by the selected action. The SHPO concurred with the NPS determination on February 10, 2010.

The EA was submitted to local tribes on March 17, 2010. No comments were received.

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. Upgrading the eastern section of the trail will reduce erosion from the existing old road and maintain the stability of the road for access for future watershed restoration projects as outlined in the 1999 GMP/EIS. However, no projects are currently being planned in the North Fork of Steelelow Creek.

The EA contains descriptions of the mitigation and best management practices to protect resources including water quality and threatened fish species that are known to be present and might be affected by the project. Potential adverse 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—The selected action will have very localized adverse effects on air quality from vehicle emissions and dust from excavation of road fill while heavy equipment is

working. Heavy equipment is licensed under state regulations to meet state air quality standards for vehicle emissions. The adverse effects from emissions and dust are negligible. Air quality will quickly return to very good to excellent when heavy equipment work is completed and vehicles no longer access the project area. There will be no long-term adverse effects on air quality in the project area.

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 for the duration of a fire. The cumulative effect on air quality in the parks from prescribed fires in the park and on adjacent private timber lands will be short-term, adverse, localized and could range from negligible to moderate depending on weather conditions. The North Coast 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).

Effects on Soils and Topography—The topography and soils affected by the project are previously disturbed from original road construction and logging. About 7,420 cubic yards of soil will be excavated to remove culverts and unstable road segments on the western section of the trail and to convert the 14-foot-wide road to a 6-foot-wide trail. On the eastern section of the trail that will be upgraded to reduce erosion while maintaining future vehicle access to restoration sites, about 4,380 cubic yards of road fill will be excavated from stream crossings and road segments.

The selected action will reduce the potential for landslides caused by failing roads by excavating unstable road fill and moving it to more stable locations, and reshaping the slope to resemble original topography as closely as possible.

Vegetation grubbed from the project site will be placed on newly excavated slopes for mulch to reduce erosion until vegetation regrows from the seed bank in topsoil, which will be repositioned as part of the excavation of the old roadbed.

The overall adverse effect on soils and topography in the project area is minor because the soils and topography have been previously disturbed by original road construction.

The selected action will have a minor localized benefit to soils and topography in the project area from removing unstable fill from road segments and stream crossings and placing it in a more stable location, repositioning topsoil, restoring the landforms, and reducing the potential for landslides and erosion.

Cumulative Effects on Soils and Topography—The selected action will have a minor cumulative benefit to soils and topography in the Streelow Creek watershed, and no effect on soils or topography in other watersheds. Around 1,400 miles of forest roads and over 5,000 miles of skid trails are estimated to have been built within the Redwood Creek basin within and upstream of the park. About 445 miles of roads and 3,000 miles of skid trails were included within the national park boundaries; some of these roads have been rehabilitated since the watershed restoration program began in 1978. Conversion of 0.9 mile of abandoned logging road to trail and upgrading 0.9 miles of logging road, removal of stream crossings and culverts, and replacement of culverts under the selected action will have negligible short- or long-term benefits to soils and

topography in the watershed as a whole, and minor benefits to soils and topography in the project area over the long-term. There will be negligible benefits to the main stem of Redwood Creek and Redwood Creek estuary and minor benefits to Prairie Creek from the selected action. Over the very long-term, as failing roads within the park are removed, roads upstream and outside the park are maintained, and effective erosion control is implemented prior to major storms, there will be a major benefit to soils and topography in the Redwood Creek basin from preventing unnaturally high levels of erosion. The long-term benefit to the Redwood Creek estuary from reducing the influx of sediment within the entire Redwood Creek basin will be a moderate benefit to estuary functioning because the Redwood Creek levees will continue to alter the hydrology and functions of the estuary.

Effects on Hydrology and Water Quality—Water quality at the stream crossings will be protected during excavation through best management practices (BMPs) to reduce soil erosion at excavation sites and prevent petrochemical or other contaminant spills. A spill prevention plan will be prepared. The BMPs from the California Department of Fish and Game (CDFG) California Salmonid Stream Habitat Restoration Manual will be used to minimize adverse effects on water quality.

The selected action will have short-term adverse effects on water quality from increased turbidity in the Streelow Creek for 1-5 years following excavation as any remaining fill material is flushed out during winter storms as the stream channels readjust to the restored configuration. Turbidity is highest in the first large storm after excavation and declines with each successive storm. The short-term adverse effects on water quality from increased turbidity are outweighed by the long-term benefits to hydrology from restoring drainage patterns; long-term benefits to water quality from removing 11,800 cubic yards of fill from and immediately adjacent to the stream channel; and long-term benefits from reducing erosion potential from the failing road fill that could enter streams or damage aquatic habitat as road fill and stream crossings erode and fail.

There would be long-term benefits to water quality and hydrology in Streelow Creek from removal of failing undersized culverts and from removing accumulated sediment. The benefit is judged to be minor to moderate, depending on the intensity and duration of storms that could cause road fill failure and erosion.

Thus, the selected action will have negligible to minor short-term adverse effects on water quality and minor to moderate long-term benefits to hydrology and water quality from restoring drainage patterns and reducing potential for road failures that introduce sediment into streams.

Cumulative Effects on Hydrology and Water Quality—The cumulative effects on hydrology and water quality in the park relate primarily to past logging and road building, both within what is now the national park and in the Redwood Creek basin upstream of current park boundaries.

Streelow Creek is a tributary of Prairie Creek, which is the largest tributary of Redwood Creek. Both Streelow Creek and Prairie Creek enter the larger stream low in their respective drainages. Therefore, these tributaries have a relatively small effect on the hydrology and water quality of the larger stream because most of the drainage basin lies upstream of the confluence of the larger stream and the tributary.

Redwood Creek is identified as a sediment-impaired and temperature-impaired stream by the U.S. Environmental Protection Agency (EPA) and as water-quality limited due to clean sediment loading by the California North Coast Regional Water Quality Control Board. The EPA established a Total Maximum Daily Load (TMDL) for sediment for Redwood Creek under Section 303(d) (1) (A) of the Clean Water Act.

The Redwood Creek TMDL is used as a reference to ensure that watershed restoration projects in the park are consistent with the recommendations of the TMDL to protect the beneficial uses of Redwood Creek, particularly the cold water fishery. The Redwood Creek TMDL is primarily concerned with the conditions on the mainstem of Redwood Creek that result from the effects of land use and natural conditions on the mainstem and all the tributaries. Redwood Creek TMDL hillslope targets will be met or exceeded under the selected action but water quality of Redwood Creek within the park will not improve significantly because the confluence of Redwood Creek with Prairie Creek is downstream of the park. There will be a negligible reduction in sediment that might be delivered to the Redwood Creek estuary (which is located within the park) by implementing the selected action in Streelow Creek. The water quality in Redwood Creek within the park will continue to be adversely affected by logging roads on unstable slopes upstream of the park and abandoned failing roads within other Redwood Creek subwatersheds in the park. As this sediment erodes, it will continue to adversely affect hydrology and water quality within the reaches of Redwood Creek within the park, and in the estuary.

The erosion potential for Redwood Creek upstream of its confluence with Prairie Creek will remain at about 5 million cubic yards of erodible sediment. Long-term improvement to the main stem of Redwood Creek from reducing sediment through the Streelow Creek improvements will be negligible because the 11,800 cubic yards of sediment removed under the selected action is negligible compared to the erosion potential of more than 5 million cubic yards of sediment remaining in the Redwood Creek watershed. A major storm will cause erosion in unrestored areas in the Redwood Creek basin; the contribution of Streelow Creek to improved conditions in Redwood Creek will be negligible in comparison to the magnitude of adverse effects throughout the basin.

Effects on Floodplains and Wetlands— The NPS carries out its responsibilities to manage floodplains and wetlands in compliance with Executive Orders 11988 “Floodplain Management” and 11990 “Protection of Wetlands” under procedures described in Director’s Orders #77-1 Wetland Protection and #77-2 Floodplain Management and their associated implementation manuals. A Statement of Findings (SOF) for effects to Floodplains and Wetlands was not prepared for this project. Actions designed specifically for the purpose of restoring degraded natural wetland, stream, riparian, or other aquatic habitats or ecological processes are exempt from the NPS requirement to prepare a wetland SOF. Actions located in floodplains that involve little physical development and do not involve overnight occupation, including foot trails in non-high hazard areas, are exempt from the NPS requirement to prepare a floodplain SOF. The selected action will occur adjacent to but not in a floodplain, and will remove old structures that degrade the natural floodplain and wetland values associated with Streelow Creek and its tributaries, and help restore natural floodplain and wetlands functions and values by restoring original hydrological patterns.

There are no well-developed floodplains in the project area because the area has steep slopes and confined stream channels. Floodplains are present lower in the drainage along Streelow Creek and Prairie Creek below the project area.

The short-term effects on riparian wetlands from the selected action will be negligible to minor and adverse from disturbance to the streambanks and removal of riparian vegetation along the stream corridor. This adverse effect will be negligible because the streambanks will be mulched with vegetation that was removed on site and stockpiled for this purpose, riparian understory vegetation will recover in one to two growing seasons, and all the riparian vegetation present has regrown following the original disturbance from road construction and logging.

There will be an immediate benefit to the floodplain of Streelow Creek downstream of the project site from converting the 14-foot-wide road to a 6-foot-wide trail and a long-term benefit to riparian wetlands along Streelow Creek from removal of undersized drainage structures and restoration of the original stream channel. This benefit will be negligible in the short-term but minor to moderate in the long-term from prevention of future catastrophic failure of the drainage structures and road fill that could bury riparian zones and fill in the floodplain.

Cumulative Effects on Floodplains and Wetlands—Restoration within the project area will have negligible short-term adverse effects and minor long-term benefits to the floodplain of Prairie Creek. Removal of stream crossings and associated road removal under the selected action will have a negligible benefit to the Redwood Creek floodplain, because Prairie Creek enters the Redwood Creek floodplain at a point where the floodplain is confined by flood control levees. As watershed restoration projects are completed within and outside the parks, and new logging roads upstream of the parks are constructed and maintained to standards in the state Forest Practice Act, there will be long-term moderate benefits to the floodplain of Redwood Creek.

There will be short-term minor adverse effects on riparian wetlands outside the project area when logging roads are removed and stream crossings restored in watershed restoration projects and long-term minor to moderate benefits as riparian zones recover after watershed restoration is completed in other areas of the park.

Effects on Vegetation—Under the selected action, about four acres of small trees and understory vegetation that has regrown following the original disturbance from road construction and logging will be cut or grubbed for road-to-trail conversion of the western 0.9 mile and two acres for the upgrading on the eastern 0.9 mile. Of the approximately 630 trees that will be removed, 60 percent are alders, 20 percent are spruce, 15 percent are redwood, and 5 percent are Douglas-fir. On the portion of the project where the 14-foot-wide road will be converted to a 6-foot-wide trail, about 195 trees per acre will be removed. Where the road will be graded and graveled, about 44 trees per acre will be removed. Most of the trees that will be removed are 4-12 inches dbh; the largest trees are alders about 20 inches dbh. The largest redwood to be removed is 18 inches dbh. No old-growth or mature conifers will be removed. The effects on vegetation are short-term, adverse, and minor because all vegetation to be removed has regrown after logging. Vegetation will quickly reestablish from the seed bank in the newly excavated soils. Growth of remaining trees immediately adjacent to the project area will be enhanced by thinning the current dense second growth.

Cumulative Effects on Vegetation— 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. 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. Park projects that remove vegetation include other watershed restoration projects, maintenance of roads and trails, fire management, and restoration of the Bald Hills grasslands and oak woodlands through removal of encroaching Douglas-fir. 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 over 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 NPS is developing a strategy to protect vegetation from Sudden Oak Death.

Effects on Wildlife—There will be short-term localized adverse effects on wildlife from noise, disturbance, and loss of 6 acres of vegetation that provides habitat. Individuals of small sedentary species will be killed or displaced by excavation and vegetation removal. Mulching of newly excavated areas will provide immediate shelter for small animals. The effect on wildlife will be negligible over the long-term because wildlife species in the project have been affected by the high degree of habitat disturbance from logging. Wildlife will recolonize newly excavated areas as vegetation regrows in 1-10 years.

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 U.S. Highway 101; and illegal poaching of elk and deer. These effects are negligible to significant, depending on the species and its degree of mobility and tolerance of human presence and disturbance. Park actions that affect wildlife include other watershed restoration projects, fire management, second growth forest management, control of non-native plants, and maintenance of facilities. The cumulative effects on wildlife from park actions in the short-term will be adverse, localized, and negligible. 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.

Effects on Rare, Sensitive, Threatened, and Endangered Species—There are no rare, sensitive, or listed plants that will be affected by the selected action.

NMFS determined that the selected action is not likely to jeopardize the continued existence of the California coastal Chinook, Southern Oregon/Northern California Coast coho salmon or Northern California steelhead. NMFS anticipates that take of listed species as a result of the selected action will have no long-term negative effects on the survival and recovery of listed species.

The selected action may affect but is not likely to adversely affect northern spotted owls or marbled murrelets due to short-term degradation of habitat. This adverse effect on

marbled murrelets and northern spotted owls is considered negligible. Over the long-term, there will be a very minor benefit to these species in the project area because remaining trees adjacent to the project area will grow larger after removal of several hundred small trees.

Cumulative Effects on Rare, Sensitive, Threatened, and Endangered Species—Almost all activities in RNSP affect federally listed threatened species because the forests and streams in the parks are occupied by northern spotted owls or marbled murrelets, and coho and Chinook salmon, and steelhead trout. Fire management will have minor long-term benefits to sensitive species from reduction in fuel levels that reduce the potential for catastrophic wildfires. Management of second growth forests will have minor to moderate benefits as forests reattain characteristics more typical of old growth forest, thus improving the habitat for forest-dwelling bird species. On-going and planned projects and activities for which the NPS consults with either USFWS or NMFS for potential effects on listed, proposed, and candidate species include road, trail and facility maintenance and construction; fire management; watershed restoration; second growth forest management; non-native plant management; helicopter and off-road vehicle use; and beach management. The USFWS and NMFS have authorized incidental take of listed species, primarily northern spotted owls, marbled murrelets, and juvenile anadromous salmonids, 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. For anadromous fish, sport and commercial fishing also affect fish populations over both the short- and long-term. 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—No historic resources listed or eligible for listing on the National Register of Historic Places will be affected by the selected action.

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

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. The NPS consults with affiliated American Indian groups and/or the SHPO/YTHPO on all projects that have the potential to affect cultural resources. No significant adverse effects to cultural resources are anticipated from any reasonably foreseeable park actions.

Effects on Visitor Experience and Visual Quality—Visitor experience and visual quality will be improved under the selected action because the new trail surface will have a consistent width and a level surface without holes and slumps. Adverse effects from trail closure will persist for two years during construction. Bicyclists are the trail user group most affected by the trail closure because there are fewer trails open to bicyclists than to hikers.

Cumulative Effects on Visitor Experience and Visual Quality—The selected action will ensure that a recreational trail continues to be available to park visitors in the future. Other recreational opportunities in the vicinity include sport fishing in area rivers, especially the Smith, Trinity and Klamath Rivers, and the Pacific Ocean; water contact sports including sea kayaking, surfing, and whitewater boating; camping, hiking, biking and equestrian opportunities in other parts of RNSP, Six Rivers National Forest, BLM lands, and numerous state parks; scenery, wildlife viewing and photography in these public lands; and many additional recreational activities available on the north coast and inland areas.

Effects on Adjacent Communities—The selected action will have a long-term indirect economic benefit to local communities from providing a safe trail for biking and hiking that will attract recreational users to the area.

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. The most significant 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.

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 Adverse Effects on Resources and Mitigations

Resource	Effect	Mitigation/Responsible Party
Air Quality	short term adverse effects from vehicle emissions and dust	vehicle maintenance emissions regulated to state standards
Soils & Geological Resources	11,800 cubic yards of soils previously disturbed by logging and road construction	mulching for erosion control (contractor under NPS and CDPR geologist supervision)

Resource	Effect	Mitigation/Responsible Party
Hydrology & Water Quality	instream excavation to remove culverts and accumulated sediment; BMPs to protect fish-bearing streams will avoid or minimize run-off into stream during & after excavation; spill prevention plan (SPP) required	develop SPP (NPS); implement BMPs to reduce short-term adverse effects (contractor under NPS and CDPR geologist supervision)
Floodplains & Wetlands	Removal of riparian vegetation adjacent to culverts and fill from stream channels	Riparian vegetation salvaged, stockpiled, and used for mulch (contractor under NPS supervision)
Vegetation	6 acres of vegetation previously disturbed by logging and road construction; salvage on-site vegetation for use as mulch; mulch and replacement of topsoil speeds natural revegetation	salvage on-site vegetation and apply as mulch to slopes (contractor under NPS supervision)
Wildlife	no mitigation prescribed for disturbance to species tolerant of on-going human disturbance; short-term noise disturbance; removal of 6 acres of vegetation (habitat)	remove all food scraps and trash to avoid attracting scavengers and habituating wildlife to people and human food sources (contractor)
Sensitive Species	BMPs required during construction to protect fish from erosion into stream; long-term benefit restoring drainage and reducing erosion potential	monitor work for application of BMPs including work at low flow periods; mulch slopes adjacent to streams (contractor under NPS and CDPR geologist supervision)
Visitor Experience & Safety	direct short-term effect on visitors from trail closure for one month; heavy equipment operations require standard safety precautions	visitor centers notified of trail closure; weekly press releases announce trail closures; signs requiring hard hats and high visibility clothing in heavy equipment operations areas (NPS, contractor)

Non-Impairment of Park Resources and Values

Non-Impairment of Air Quality—Air quality will be adversely affected primarily by dust raised from excavation and vehicle emissions. Dust will be negligible because of the small area that will be excavated. Vehicles will be licensed under California and federal emission standards. Air quality in the parks will return to very good to excellent condition after ground disturbance ceases to generate dust and equipment operations cease. The long-term effect of vehicle emissions associated with park maintenance operations on

road and trail is negligible. Therefore, the selected action will not impair air quality or air quality related values in the park.

Non-Impairment of Soils and Topography—Approximately 6 acre of soils will be affected by excavation of stream crossings and associated slopes. These soils were previously disturbed by the original road construction and by logging. The selected action will protect soils from further disturbance caused by erosion and failure of unstable slopes and will uncover and return topsoil to more or less its original position along the short segment of road to be treated. The original topography of the stream crossings will be fully restored to original channel shape and depth. Therefore, the selected action will not impair soils or topography in the park and will eliminate or reduce impairment to soils and topography in the project area that resulted from construction of the logging roads and the stream crossings.

Non-Impairment of Hydrology and Water Quality—Streelow Creek is a tributary of Prairie Creek. Prairie Creek is one of the largest tributaries of Redwood Creek and the last major tributary to join Redwood Creek at their confluence about four miles upstream of the Pacific Ocean. Redwood Creek is identified as a sediment-impaired and temperature-impaired stream by EPA and as water-quality limited due to clean sediment loading by the North Coast Regional Water Quality Control Board. The Redwood Creek TMDL for sediment established by the EPA is used as a reference to ensure that watershed restoration in Lost Man Creek is consistent with the TMDL recommendations to protect the beneficial uses of Redwood Creek, particularly the cold water fishery. The Redwood Creek TMDL is primarily concerned with the conditions on the mainstem of Redwood Creek that result from the effects of land use and natural conditions on the mainstem and all the tributaries. The position of Prairie Creek low in the Redwood Creek watershed means that restoration in Streelow Creek contributes less to the reduction of sediment in the mainstem of Redwood Creek than restoration of tributaries to the mainstem of Redwood Creek. The restoration work in Streelow Creek is fully consistent with the recommendations in the Redwood Creek TMDL for improving water quality through reduction of sediment related to human activities, although the small volume of sediment that will be removed will have a negligible benefit to restoration of the mainstem of Redwood Creek.

Potential adverse effects on water quality during excavation of stream crossings will be avoided by using the BMPs described in the California Department of Fish and Game (CDFG) California Salmonid Stream Habitat Restoration Manual.

The selected action will result in short-term adverse effects on water quality from increased turbidity in first few years following excavation of the stream channel as small quantities of sediment remaining after excavation are flushed out in storm events. In the long-term, restoration will protect and improve water quality by removing road fill adjacent to Streelow Creek and moving the fill to a stable location where it will not erode into the stream.

The selected action will restore the hydrological pattern of Streelow Creek that existed prior to the construction of the roads. The project area will be considered “hydrologically transparent” following the excavation of road fill from stream channels and restoration of topography that will restore original drainage patterns. Therefore, the selected action will not impair hydrology or water quality in Streelow Creek and will reduce the potential

for impairment to Streelow Creek from eventual stream crossing failures and from chronic erosion along the stream channel but will have a negligible effect on reducing the sediment impairment in the mainstem of Redwood Creek or the estuary.

Non-Impairment of Floodplains and Riparian Wetlands—The steep, narrow stream channels in the project area do not have well-developed floodplains. The selected action will benefit the floodplain of Streelow Creek and Prairie Creek downstream of the project area by restoring hydrological patterns upstream and eliminating the potential for culvert failures that could deliver sediment into the floodplain in a major storm.

Riparian zones along Streelow Creek will be adversely affected during excavation of stream crossings. Riparian vegetation will regrow along streams within a few years after excavation. Removal of fill from stream channels will improve the hydrological functioning of Streelow Creek, which will benefit the riparian zones of Streelow Creek downstream of the project area. Therefore, the selected action will not impair floodplains or wetlands.

Non-Impairment of Vegetation Resources—The project area was logged between the 1950s and the 1960s. The original vegetation community was impaired by clearcut logging. The existing vegetation is second-growth forest and shrubs that have regrown following logging, with scattered individual residual trees that were not cut. The selected action will redisturb 6 acres of what is now second-growth vegetation. No trees larger than 24" dbh will be removed; most trees removed will average 8-12 inches dbh. The seedbank in topsoil that was buried beneath road fill will be exposed in repositioned topsoil and will speed revegetation with local species. Native shrubs and trees will re-establish on excavated areas in several years. Removal of not more than 650 trees, mostly alders, will improve the growth rate of remaining trees.

Therefore, the selected action will not cause further impairment to park plant communities or vegetation and will only slightly reduce but not eliminate the impairment to the original plant communities caused by logging in the project area and other areas of the park prior to park establishment.

Non-Impairment of Wildlife Resources—Some wildlife species that occur in the project area will be adversely affected by noise and disturbance at work sites during heavy equipment operations, or loss of habitat from removal of vegetation. On-site vegetation removed by excavation will be used for mulch and will provide immediate shelter for small animals. Loss of 6 acres of habitat from vegetation removal will be a short-term adverse effect on small sedentary animals that cannot move out of work sites but the selected action will not affect any populations of wildlife or the long-term persistence of any wildlife species. Therefore, the selected action will not impair wildlife resources. Mitigation measures that reduce the adverse effects of the selected action on threatened and endangered fish and wildlife will minimize adverse effects on non-listed species.

Non-Impairment of Rare, Sensitive, Threatened, and Endangered Species—The USFWS concurred with the NPS determination that the selected action may affect but is not likely to adversely affect any listed terrestrial species or their habitat. NMFS determined that the project is not likely to jeopardize the continued existence of the California Coastal Chinook salmon, Southern Oregon/Northern California Coast coho salmon or Northern California steelhead, and is not likely to destroy or adversely modify

designated critical habitat of these species. An incidental take statement included with the NMFS biological opinion covers required measures and terms and conditions that are expected to reduce incidental take of these species as a result of the selected action. Therefore, the selected action will not cause impairment to threatened or endangered species.

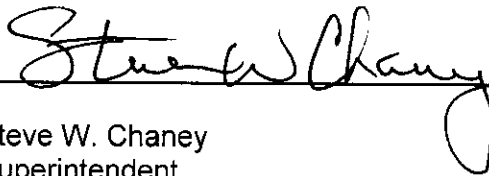
Non-Impairment of Cultural Resources—There are no historic properties that will be affected by the selected action. Therefore, the selected action will not impair cultural resources.

Basis for Decision

Based on the environmental assessment, analyses of issues and alternatives, together with consideration of public interest and the relation between public interest and laws, statutes, and regulations for managing NPS units, the ability of the mitigation measures to reduce or eliminate adverse impacts, and the concurrence of agencies for similar projects for reduction of threats to threatened salmonids in California, the NPS will implement as its selected action the project described as Alternative 2 in the *Streelow Creek Trail Improvements Environmental Assessment* dated March 2010.

It is the determination of the National Park Service that the selected action for converting 0.9 mile of old logging road into a trail and upgrading 0.9 mile of old logging road to reduce erosion while maintaining administrative vehicle access for future watershed restoration does not constitute a major federal action significantly affecting the quality of the human environment, nor is this project without precedent or similar to ones that normally require an environmental impact statement. The selected action will further the goals for visitor use in this area called for in the 1996 Finding of No Significant Impact for the Davison Ranch Development Concept Plan/Environmental Assessment and in the 1999 GMP/EIS and 2000 Record of Decision. 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 program as soon as practicable.

Recommended:

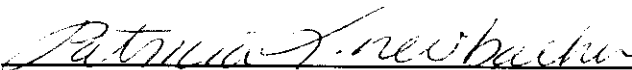


Steve W. Chaney
Superintendent
Redwood National Park

5-6-10

Date

Approved:



5/7/10

Date



George J. Turnbull
Acting Regional Director
Pacific-West Region
National Park Service