

Finding of No Significant Impact Greater Prairie Creek Ecosystem Restoration Project Redwood National and State Parks Humboldt County, California July 2019

Introduction

The National Park Service (NPS) prepared an Environmental Assessment (EA) as part of a joint Initial Study/Negative Declaration and EA (ISND/EA) for the Greater Prairie Creek (GPC) Ecosystem Restoration Project (the Proposed Action or selected action) within Redwood National Park. This Finding of No Significant Impact, together with the Draft ISND/EA (dated April 2019) and Final ISND/EA (dated July 2019), constitute a complete record of the conservation planning and environmental impact analysis process for this proposal. Also attached, pursuant to the National Park Service (NPS) Management Policies, is the park manager's determination that the selected action will reduce the existing impairment to Redwood National Park forests and no impairment to other park resources will result from the selected action.

NPS will implement the Proposed Action, which was identified in the ISND/EA as the NPS preferred alternative. No comments were received that required changes to the Proposed Action and only one comment was received that required additions to the ISND/EA, reflecting a project that is generally well understood and supported by agencies, stakeholders, organizations, and the general public throughout the local area and region. Two alternatives were evaluated in the ISND/EA: the Proposed Action and the No Action Alternative.

There is a history of legislation applicable to management of second-growth forests in the project area. Redwood National Park was established by Congress in 1968 to "preserve significant examples of the coastal redwood... forests and the streams and seashores with which they are associated for purposes of public inspiration, enjoyment, and scientific study" (Public Law 90-545). The legislation that established Redwood National Park directed NPS to minimize human-induced impacts to terrestrial and aquatic resources within the park (Public Law 90-245 Section 3[e]). In 1978, Congress expanded the national park to encompass 50,000 acres in the lower one-third of the Redwood Creek watershed that had been privately owned timber lands. The 1978 expansion legislation authorized NPS to implement a program of watershed rehabilitation within and upstream of the park and directed NPS to develop a comprehensive general management plan (GMP) with objectives, goals, and proposed actions designed to assure the preservation and perpetuation of a natural redwood forest ecosystem (Public Law 95-250 Section 104[b][1]). Since 1978, NPS has been conducting watershed restoration activities in accordance with this legislation.

The Proposed Action is consistent with the direction in the *1999 Redwood National and State Parks Final General Management Plan/General Plan, Final Environmental Impact Statement/Environmental Impact Report* (1999 GMP/GP) approved through the 2000 Record of Decision. The 1999 GMP/GP directed that forest restoration activities in the parks emphasize use of silvicultural methods in second-growth forests to re-attain old-growth characteristics in the shortest time possible, and that watershed restoration activities in the parks emphasize partial landform restoration, with complete removal of all major logging roads and limited removal of the minor roads that pose the greatest threat to park resources.

It is NPS policy to strive to restore the integrity of park resources that have been damaged or compromised in the past, per the Management Policies 2006, which allow NPS intervention in natural biological and physical processes to restore natural ecosystem functioning that has been disrupted by past or ongoing human activities.

In 2005, the Department of the Interior published a final rule (48 Code of Federal Regulations [CFR] 1437 and 1452) under the authority found in the NPS Organic Act (16 United States Code 1) outlining procedures to allow service contractors the option to remove woody biomass by-products generated as a result of NPS land management activities whenever ecologically appropriate. Ecological benefits of removing woody biomass include improved forest health, wildlife habitat, and watershed protection.

Purpose and Need for Ecosystem Restoration

The purpose of the project is to rehabilitate the GPC watershed and restore ecosystem processes that have been degraded by historical land use. Rehabilitation would be accomplished through thinning second-growth forests to reduce stand density and alter species composition to promote growth of remaining trees, understory vegetation, and development of multi-story canopy; removing or maintaining roads to reduce the potential for erosion and sedimentation into streams; restoring in-stream habitat complexity; and augmenting riparian corridors by planting native vegetation. These actions are needed to accelerate development of forest characteristics more typical of late-seral forests, prevent chronic and catastrophic sediment inputs to creeks, and enhance habitat for populations of aquatic and terrestrial species.

NPS has identified the following project objectives:

- Forest restoration objectives: reestablish old-growth connectivity in the GPC watershed; enhance structural complexity of the forest; encourage the development of the forest understory; establish multi-aged stands; recover desired composition of overstory tree species; and increase resilience to environmental stressors (e.g., disease/pathogens and drought)

- Aquatic restoration objectives: increase in-channel complexity; maintain habitat values, ecological health, and function while long-term recovery occurs; and reestablish riparian function
- Road removal objectives: reduce erosion and sediment delivery from existing infrastructure into streams; and reestablish natural stream morphology, hydrology, stream function, and fish passage

Selected Action

The selected action is the Proposed Action, or the GPC Ecosystem Restoration Project. There are no changes to the description of the Proposed Action as presented in the ISND/EA, except for the minor change to the dates for which raptor nesting surveys would be conducted, as noted in PSR-BIO-8 in the Final ISND/EA.

Under the selected action, NPS is proposing to complete forest and aquatic restoration and road removal activities over 9,200 acres within the GPC watersheds. Restoration activities would occur in phases over time. Forest restoration would entail forest thinning to reduce stand density and enhance forest health using two operational methods: lop and scatter and biomass removal. Proposed aquatic restoration would include placement of large wood in streams, riparian planting, and enhancement of existing riparian stands. The Proposed Action would include the removal of logging roads and related road infrastructure that threaten aquatic resources through the recontouring of these disturbed areas to pre-logging conditions. These actions are needed to accelerate development of forest characteristics more typical of late-seral forests, prevent chronic and catastrophic sediment inputs to creeks, and enhance habitat for populations of aquatic and terrestrial species.

Summary of Adverse Effects on Resources and Project Requirements GPC Ecosystem Restoration Project

Resource	Effect	Project Requirement (Responsible Party)
Air Quality	Minor temporary localized dust and vehicle emissions during implementation. Potential for reducing long-term emissions of air pollutants by lessening the incidence and severity of fires and reducing fugitive dust from removing unpaved roads.	Applying water and grading restrictions to reduce dust. Proper equipment maintenance. Restrictions on vehicle idling. (Contractor)
Greenhouse Gas Emissions	Short-term GHG emissions from use of diesel- and gas-powered equipment and forest thinning. Restored project area will	Proper equipment maintenance. Restrictions on vehicle idling. (Contractor)

Resource	Effect	Project Requirement (Responsible Party)
	be more diverse, resilient, and robust in the long term.	
Geology and Soils	Minor temporary erosion associated with forest thinning, culvert replacement, and road removal activities. Moderate benefit from reduced erosion potential from historic logging road removal.	Implementation timing restrictions. Mulching exposed soils. General erosion control measures. Avoiding unstable areas. Requirements for when to consult with an earth sciences/physical science professional. Implementing new landing and winterization requirements. (NPS Geologist and Contractor)
Hydrology and Water Quality	Short-term likelihood of water quality impacts from increased turbidity from forest thinning, culvert replacement, and road removal activities. Minor temporary wetland impacts during road reoccupation and removal and large wood placement. Moderate benefit to hydrology from road removal. Minor benefit from reducing sediment input into wetlands and creating additional wetland and riparian areas from culvert and road removal.	Implementation timing restrictions. Mulching exposed soils. General erosion control measures. Implementing riparian buffers, water drafting requirements, and drainage structure maintenance requirements. Monitoring stream crossings. Preparing and implementing a spill prevention plan. Requirements for equipment decontamination. Avoiding trees contributing to bank stability. Isolating in-water work areas. (NPS Geologist and Contractor)
Biological Resources	<u>Vegetation:</u> Minor impacts on young dense Sitka spruce and redwood forests from thinning. Long-term benefits from improving overall forest health as well as vegetative conditions along Prairie Creek and the adjacent wetlands.	Conducting pre-implementation surveys for special-status plants. Buffers to avoid special-status plants. (Contractor and NPS Biologist)
	<u>Fish:</u> Minor impacts from increasing sediment delivery to streams that support special-status fish during and immediately following implementation. Long-term benefits from improving fish passage at culverts, removing legacy roads and stream crossing, and improving habitat conditions from large wood placement.	Isolating in-water work areas. Implementation timing restrictions. Implementing a fish rescue and relocation protocol, equipment exclusion zones, and water drafting requirements. Following all Endangered Species Act requirements. Mulching exposed soils. Reusing large wood encountered for aquatic restoration. (Contractor and NPS Biologist)
		Conducting pre-implementation surveys for foothill-yellow legged frog. Implementation timing restrictions.

Resource	Effect	Project Requirement (Responsible Party)
	<u>Amphibians</u> : Minor impacts from implementation activities occurring in winter months.	Isolating in-water work areas. Implementing equipment exclusion zones. Following all Endangered Species Act requirements. Mulching exposed soils. (Contractor and NPS Biologist)
	<u>Birds</u> : Minor impact from implementation activities affecting bird habitat and causing noise disturbances. Long-term benefits from the accelerated development of late successional conditions and improved nesting and foraging habitat.	Implementation timing restrictions. Conducting bird surveys and implementing buffers or other restrictions. Retaining wildlife trees. Following all Endangered Species Act requirements. (Contractor and NPS Biologist)
	<u>Mammals</u> : Negligible short-term impacts during implementation. Long-term benefits from encouraging large trees with hollows, snags, and complex structure and recruiting habitat fragmentation.	Retaining portions of intermediate trees or snags and the largest trees. Avoiding old-growth trees and wildlife trees with cavities, hollows, and snag tops.
Cultural Resources	Potential ground disturbance from road removal activities and ground-based and skyline forest thinning operations.	Conduct historical and archaeological resources surveys. Suspend work for inadvertent discoveries. Establish buffers around archaeological resources. Aerial suspension removal requirements within culturally sensitive areas. (Contractor and NPS Cultural Resources Specialist)
Recreation	Short-term access restrictions on some hiking and biking trails during implementation.	
Aesthetics	Minor impacts on scenic quality during and immediately after implementation. Minor long-term benefit from increasing the park's aesthetic value.	
Socioeconomics	Negligible short-term impacts on Orick community during implementation. Minor short-term benefit from increased employment opportunities. Minor long-term benefit from increased tourism.	

Alternatives Considered in the ISND/EA

The April 2019 ISND/EA considered two alternatives:

- **Proposed Action: GPC Ecosystem Restoration Project.** Under the Proposed Action, forest and aquatic restoration and road removal would occur throughout the approximately 10,300-acre project area over the course of approximately 10 to 15 years in three phases.
- **No Action Alternative.** Under the No Action Alternative, large-scale forest thinning to accelerate the development of old-growth characteristics would not occur, in-stream habitat and riparian corridors would not be restored or reestablished, and road removal would not occur. Within the project area, existing unnatural overstocked forest conditions would persist, existing abandoned logging roads would remain, and fill material would remain in streams. In other areas of the park, ecosystem restoration projects could occur on a project-by-project basis. Regular monitoring and maintenance activities would continue as they historically have throughout the project area.

Preliminary Options Considered and Dismissed

NPS considered a number of options to restore ecosystems in the project area, but determined that the options either would not meet the purpose and need for the project or would be inconsistent with the 1999 GMP/GP (NPS/CDPR 1999). Preliminary options considered but dismissed include the following:

- **Lop-and-Scatter Only.** A lop-and-scatter only alternative would involve lop-and-scatter operations throughout the entire project area, with no biomass removal. This alternative was dismissed because it would not meet the stated purpose and need for the project.
- **Low-Intensity Thinning from Below.** A basal area reduction of 25 to 30% (low-intensity thin from below) was considered. Results from past thinning efforts in the park show that thinning from below would not release the dominant and co-dominant trees because this method concentrates on cutting trees in the intermediate and suppressed crown classes. Low-intensity thinning from below would not generate the growth response desired to accelerate the development of old-growth characteristics in as short a time as the Proposed Action. Therefore, this alternative would not meet the project purpose and need and was not carried forward for full analysis.
- **Helicopter Logging.** Helicopter logging is a method of logging that uses helicopters to remove cut trees from forests by lifting them on cables attached to a helicopter. It is often used in inaccessible areas of forests. Helicopters are not permitted to lift trees over U.S. Highway 101, which means that this alternative could not be used throughout much of the project area. Helicopter logging also requires large landings and is typically a high-cost

method. Therefore, this alternative would not meet the project purpose and need and was not carried forward for full analysis.

- **Prescribed Fire.** Use of prescribed fire as a technique to thin second-growth forests was considered. Little experimentation has taken place on using prescribed fire as a second-growth forest restoration tool on a relatively large scale. It is difficult to predict the level of mortality caused by a prescribed burn and the overall forest characteristics created after a burn. It is unknown whether prescribed fire could directly restore redwood as the dominant species at the stand level or what intensity of prescribed fire would be needed to restore or accelerate development of ecological processes and characteristics found in mature forests. Further study is needed to test fire effects in high-density second-growth stands dominated by Douglas-fir and spruce. Given the high degree of uncertainty associated with prescribed fire in dense young second-growth forests in the park, this alternative was not carried forward for full analysis.
- **Removal of Crossings and Retention of Roads.** This alternative would involve removing blocked stream crossings but retaining all roadways in the project area. It would reduce the amount of fill removed as part of partial road removal activities; however, it would leave in roadways that would continue to erode and cause sedimentation issues in the watershed. Therefore, this alternative would not meet the project purpose and need and was not carried forward for full analysis.
- **Maintain All Roads.** This alternative would involve treating and maintaining all roadways in the project area. Sedimentation threats would be reduced. However, this alternative would conflict with park management direction included in the GMP/GP; therefore, it was not carried forward for full analysis.
- **Reduced Project Area.** NPS considered an alternative consisting of a smaller project area, including only Phase 1 or Phases 1 and 2. A smaller project area would not accomplish the stated ecosystem restoration objectives; therefore, this alternative was not carried forward for full analysis.

Environmentally Preferable Alternative

The Council on Environmental Quality's (CEQ's) National Environmental Policy Act (NEPA) regulations and the NPS NEPA guidelines require that "the alternative or alternatives which were considered to be environmentally preferable" be identified (40 CFR 1505.2). The CEQ defines "environmentally preferable" as "the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the

biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.” The environmentally preferable alternative is based on an evaluation of the alternative using the criteria in Section 101 of NEPA, as follows:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- 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, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
- Achieve a balance between populations and resource use which will permit high standards of living and a wide sharing of life’s amenities; and
- Enhance the quality of renewable resources and approach maximum attainable recycling of depletable resources.

The Proposed Action is the environmentally preferable alternative because, overall, it would best meet the requirements in Section 101 of NEPA. Compared with the No Action Alternative, it more effectively fulfills the responsibilities of each generation as trustee of the environment for succeeding generations. While the No Action Alternative would result in fewer short-term implementation-related impacts than the Proposed Action, it would also maintain the current level of chronic legacy effects and degraded conditions of previous timber and road management actions. The Proposed Action would accelerate the development of late-seral forest characteristics more quickly than the No Action Alternative.

Public Involvement

Public scoping for the Proposed Action was conducted from June 26 through August 6, 2018. To initiate the public scoping process, NPS sent a brochure describing the planning process, purpose and need, alternatives under consideration, and general description of the Proposed Action to 78 recipients, including individuals, agencies, and organizations. The brochure was also emailed to 59 addresses. During the public scoping period, two public scoping meetings were held: the first was held at the Arcata, California office of the U.S. Fish and Wildlife Service, on July 17, 2018, and the second was held at the NPS North Operations Center in Crescent City, California on July 18, 2018. Both meetings presented information about the purpose, need, and objectives of the project in an open-house format. Members of the public were able to submit comments by mail, in person at the meetings, or electronically at the NPS Planning, Environment, and Public Comment website (<http://parkplanning.nps.gov/GPC>). Comments were received from a total of 16 individuals, agencies,

and organizations through the public scoping process. Comments primarily related to the following: voicing support for the Proposed Action; suggesting the addition of out-of-scope elements to the Proposed Action; and suggesting that NPS and CDPR coordinate and consult with organizations, tribes, and companies as part of the Proposed Action.

The joint Draft ISND/EA was made available for a 30-day public review at the reference desks of three Humboldt County Library branches (Eureka, Arcata, and McKinleyville), the Humboldt State University Library, and the Del Norte County Library in Crescent City. It was also available at the public information desks of the California Department of Parks and Recreation (CDPR) Northern Service Center, CDPR North Coast Redwoods District Headquarters office, Redwood National and State Parks (RNSP) Headquarters office, Thomas H. Kuchel Visitor Center, and NPS South Operations Center, as well as on the NPS website (<http://parkplanning.nps.gov/GPC>) and CDPR website (https://www.parks.ca.gov/?page_id=980). NPS and CDPR sent 102 letters and 79 emails announcing the availability of the document for review to federal, tribal, state, and local agencies; elected officials; organizations, businesses, and individuals. Hardcopies of the Draft ISND/EA were also provided to select agencies and organizations. A press release was sent to the Redwoods National Park media list, which includes local and regional newspapers, radio, and television stations. A separate notice was published in the Eureka Times-Standard. All notifications provided the physical and online locations where the Draft ISND/EA was available for review.

Response to Comments

Nine comments were received on the Draft ISND/EA. Six comments were posted to the NPS Planning, Environment, and Public Comment (PEPC) website and three comment letters were received via U.S. mail. Four comments supported the Proposed Action as described in the ISND/EA without raising any other concerns, three comments supported the Proposed Action and posed questions or request for additional information, and two comments asked questions without voicing support or opposition for the Proposed Action. Responses to substantive comments are provided below.

The North Coast Regional Water Quality Control Board (NCRWQCB) acknowledged the agency's support of the Proposed Action and requested additional information related to permitting requirements. The requested information has been included in the permit applications prepared for the Proposed Action.

The Northcoast Environmental Center requested that precautions be taken to ensure that the Proposed Action would not result in increased establishment of invasive plants, that herbicide use be avoided if possible, and that large old-growth trees be retained. Invasive plant management within the project area currently occurs and would continue to occur in accordance with North Coast Redwoods District invasive species best management practices or the *Invasive Plant Management*

Plan for Redwood National Park. Herbicide use is not proposed as part of the Proposed Action, and no old-growth trees would be removed as part of the Proposed Action.

A commenter asked whether campgrounds would be closed during implementation of the Proposed Action. There are no campgrounds within the project area, and there would be no closures of campgrounds associated with the Proposed Action.

The Environmental Protection Information Center (EPIC) requested that all mechanical noise within marbled murrelet nesting buffers be eliminated during the marbled murrelet breeding season; that restrictions be imposed on road-related activities during winter and high stream flow periods, and during critical periods for federal- and state-listed amphibians and anadromous salmonids; that the Proposed Action's impacts on the California condor (*Gymnogyps californianus*) be evaluated; and that coordination with the Tolowa, Yurok, and other affected tribes regarding the Proposed Action occur.

Specific to the marbled murrelet comment, the Proposed Action will comply with all federal and state requirements for protecting marbled murrelet. Adherence to the work window proposed by EPIC would only allow work to occur over approximately 1 month per season (September 16 to October 15), which is not enough time to complete the planned work in areas adjacent to marbled murrelet habitat and would cause additional years of disturbance adjacent to the habitat. The total amount of habitat that may be potentially disturbed equals approximately 4% of the suitable marbled murrelet nesting habitat within all of RNSP. An overall benefit of the Proposed Action is that it will improve habitat conditions for marbled murrelet in the long term.

Specific to the comment on restrictions on road-related activities, the timing of road-related activities proposed as part of the Proposed Action is addressed in PSR-GEO-5 (winterization requirements and timing restrictions on activities causing soil erosion). A cumulative watershed effects analysis and severity of ill effects analysis concluded that, in a worst-case scenario, the Proposed Action would result in sub-lethal impacts to salmonids.

The California Condor Reintroduction Project has been added to Sections 3.1.3 and 3.6.2 of the Final ISND/EA in response to EPIC's comment.

Regarding the tribal coordination comment, significant consultation has occurred with Native American tribes. NPS has communicated with the Big Lagoon Rancheria, Blue Lake Rancheria, Elk Valley Rancheria, Hoopa Valley Tribe, Resighini Rancheria, Tolowa Dee-ni' Nation, Trinidad Rancheria, and Yurok Tribe. NPS has met with interested tribes in person regarding the Proposed Action numerous times. A tribal representative from the Yurok Tribe met with archaeologists and NPS staff prior to survey and accompanied crews during field work. The Yurok monitors were involved in the survey kick-off meeting and coordinated with NPS at each stage of field work.

Consultations with Agencies and Tribes

The selected action has the potential to affect three species of fish, one mammal, and two species of birds federally listed as threatened. NPS determined that the selected action may affect and is likely to adversely affect the marbled murrelet, Chinook salmon, coho salmon, and steelhead trout, and that the selected action may affect but is not likely to adversely affect the northern spotted owl and southern resident killer whale. The National Marine Fisheries Service (NMFS) issued a Biological Opinion (BO), file number WCRO-2019-0029, dated July 23, 2019, that concurred with the NPS determination. The U.S. Fish and Wildlife Service (USFWS) issued a BO, file number AFWO-19B0048-19FO300, dated July 16, 2019, that concurred with the NPS determination.

NPS initiated consultation under Section 106 of the National Historic Preservation Act (NHPA) with the California State Historic Preservation Officer (SHPO) by letter on July 25, 2018; requested review of the Area of Potential Effects (APE) by letter on February 25, 2019; and has also coordinated with SHPO staff by phone. SHPO staff asked NPS for additional information about the depth of ground disturbance via email and the NPS responded with that information via emails on April 18 and May 20, 2019. SHPO concurred with the APE in correspondence dated May 22, 2019. On June 17, 2019, NPS consulted with the California SHPO via a letter requesting concurrence with a finding for No Adverse Effects to Historic Properties from Phase 1 of the GPC project that includes restoration activities in Units 1 through 6, the Berry Glen Unit, and for access and staging along the Wolf Creek Logging Spur Road, which is in Unit 7. The NPS letter also updated the APE.

Standard protection measures and project specific recommendations to protect cultural resources in the APE for GPC include recommendations for unanticipated or inadvertent discoveries of archeological resources or human remains. To resolve adverse and unknown impacts on cultural resources from future phases of the GPC project, NPS will enter into a Programmatic Agreement in accordance with 36 CFR 800.14 (b)(3) for phased identification of historic properties, or will complete consultations in accordance with Section 106 of the National Historic Preservation Act (2008) and its implementing regulations (36 CFR 800), including consultation with the California SHPO and tribes as appropriate.

NPS initiated government-to-government and NHPA consultation with federally recognized Native American tribes, including the Big Lagoon Rancheria, Blue Lake Rancheria, Elk Valley Rancheria, Resighini Rancheria, Tolowa Dee-ni' Nation, Trinidad Rancheria, and Yurok Tribe, on July 25, 2018. The project is in Yurok ancestral territory. The Blue Lake Rancheria and Hoopa Valley Tribe elected not to comment on the project. NPS requested comments from participating tribes on the APE for the Proposed Action by letter on February 25, 2019, and requested comments from tribes on the NPS recommendation of No Adverse Effects to Historic Properties from Phase 1 via letter on June 17, 2019, in accordance with Section 106 of the NHPA. In addition, tribes were notified of the release of

the IS/EA for comment and invited to request additional government to government consultation meetings about the project in correspondences dated April 10, 2019. No responses were received.

Government-to-government meetings among NPS and CDPR officials have occurred with the Elk Valley Rancheria, Tolowa Dee-ni' Nation, and the Yurok Tribe. An informal meeting with a CDPR staff representative and Trinidad Rancheria Tribal Preservation Officer also occurred. Consultations with tribes are ongoing. No successful contact has been made to date with the Big Lagoon Rancheria or Resighini Rancheria about the Proposed Action. No written comments have been received from the tribes regarding the Proposed Action. Monitors from the Yurok Tribe participated in archeological surveys of the Phase 1 units in collaboration with contractors and NPS staff.

NPS determined that the selected action would have no impact on coastal zone resources and prepared a Coastal Zone Management Act Negative Determination. The California Coastal Commission concurred (ND-0021-19) with the NPS determination on July 23, 2019.

NPS is in the process of securing several federal and state permits for the selected action. A Clean Water Act Section 404 Regional General Permit will be obtained from the U.S. Army Corps of Engineers for the selected action. Coverage under Category B of the Waiver of Waste Discharge Requirements for Nonpoint Source Discharges Related to Certain Federal Land Management Activities on National Forest System Lands in the North Coast Region and a Clean Water Act Section 401 Water Quality Certification will be issued by NCRWQCB.

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

In considering the criteria for significant impact as defined by CEQ regulations (40 CFR 1508.27), NPS determined that the selected action will not have a significant effect on the human environment. The "human environment," as defined in 40 CFR 1508.14, includes the natural and physical environment and the relationship of people with that environment. Specifically, there are no highly uncertain or controversial impacts, unique or unknown risks, elements of precedence, or cumulatively significant effects identified. Implementation of the selected action will not result in the loss or destruction of significant natural, cultural, or historic resources. Implementation of the selected action will not violate any federal, state, or local laws.

The ISND/EA contains descriptions of adverse effects on aesthetics; air quality; greenhouse gas (GHG) emissions; geology and soils; hydrology and water quality; biological resources; recreation; aesthetics; and socioeconomics. Potential adverse effects to these resources have been determined to be less than significant and will not require mitigation on the part of NPS to avoid or reduce the effects. The ISND/EA contains descriptions of project requirements (standard project requirements [SPRs] and project-specific requirements [PSRs]) to be implemented as part of the selected action to

avoid significant project-related impacts to the environment. The selected action will not directly affect floodplains, old-growth forests, or cultural resources.

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 are significant.

Effects on Air Quality

The intermittent and short-term use of heavy equipment would emit criteria air pollutants, toxic air contaminants, and fugitive dust. In addition, grading and soil movement has the potential to generate dust. The Proposed Action includes the project requirements to control fugitive dust, including requirements for proper maintenance of equipment, watering during implementation to minimize fugitive dust, 5-minute maximum idling restrictions, and fugitive dust-related excavation/grading restrictions. While the Proposed Action would generate emissions during implementation activities, emissions would be short term, localized, and minor, and would not violate air quality standards.

Cumulative effects on air quality from emissions from road construction or logging equipment, smoke from wildfires, dust from vehicles on U.S. Highway 101, and emissions from wood stoves or pile burning from urban zones, could occur. However, these emissions would be short term, localized, and minor, and would not violate air quality standards. Forest management activities in general have the potential to reduce long-term emissions of air pollutants by lessening the incidence and severity of fires, which are a major source of periodic air emissions in the state. The Proposed Action would also reduce the number of unpaved roads in the area, thereby reducing fugitive dust.

No significant air quality related values would be affected outside of the immediate area where equipment is operating. Dust and emissions would be temporary. The overall effects on air quality under the Proposed Action would be adverse, temporary, localized, and minor.

Effects on Greenhouse Gas Emissions

Short-term GHG emissions from implementation activities involving use of diesel- and gas-powered equipment and forest thinning would occur. The goals of the project are to rehabilitate the greater GPC watershed and restore ecosystem processes that have been degraded by historical land use activities and have created a relatively homogenous forest landscape. In the long-term, restoration would lead to a more diverse, resilient, and robust ecosystem that can offset Proposed Action implementation emissions, store carbon, resist insect disease, and decrease the risk of accelerated carbon loss through severe fires.

Cumulative effects could result from other projects in the region that emit GHGs, which, because of the nature of climate change, would be additive. The Proposed Action's GHG emissions would be

limited to implementation activities and would represent a less-than-significant cumulative contribution to climate change because the Proposed Action would result in a net decrease in GHG emissions in the long term through sequestration.

Effects on Geology and Soils

The Proposed Action includes a set of treatments to prevent erosion and control sediment during implementation activities. Restoration actions would avoid unstable areas or areas that could become unstable, and nearby substantial earthquakes would trigger consultation and approval with an earth sciences/physical sciences professional before any treatment year. Forest thinning methods would be selected based on reducing sediment delivery potential. Extensive winterization, seasonal-use requirements, and dispersing cut vegetation across exposed soils would prevent erosion and concentrated runoff. Roads, landings, and skid trails would be maintained, upgraded, and constructed to engineering and geologic standards to ensure site stability.

New landings would be constructed to the minimum size needed and existing landings would be used as much as practicable to reduce sediment erosion. Yarding would be restricted to using equipment capable of one-end log suspension to reduce ground surface disturbance. Existing roads and landings proposed for reuse would be evaluated by an earth sciences/physical sciences professional who would provide necessary erosion prevention and sediment control prescriptions. Equipment operators at road construction and removal sites would minimize exposure to unstable slope with the potential to cause soil erosion. Erosion prevention and sediment control measures would be implemented on skid trails and disturbed soils with the potential for erosion and sediment delivery to waterbodies, floodplains, and wetlands. The Proposed Action would not result in substantial soil erosion or the loss of topsoil. In addition, road removal work included in the Proposed Action is specifically being implemented to address existing and future erosion related to legacy logging uses, resulting in an overall benefit related to soil erosion and topsoil loss.

In terms of cumulative effects, historic timber management practices (clearcut tractor logging, road building, and minimal road maintenance) have had substantial direct adverse effects on soils and led to erosion. Combined with other past present and future forest restoration and maintenance activities, the Proposed Action would restore natural systems, resulting in a long-term benefit.

Effects on Hydrology and Water Quality

For forest thinning activities, the Proposed Action includes streamside protection zones in which no heavy equipment would be permitted and traditional ground-based heavy equipment would be prohibited from operating on slopes greater than 40%, except for cable-assisted equipment (e.g., tethered harvesters and forwarders), which would be allowed on slopes up to 85% as long as the equipment stays on designated trails covered with a minimum of 6 inches of slash and operations within the riparian management zone are restricted. Short-term sediment discharge

would be managed by the inclusion of streamside and wetland buffers and prescriptions, timing restrictions on road reconstruction and/or removal, and avoidance of trees contributing to streambank stability as part of the Proposed Action. The Proposed Action would thin trees within riparian areas to promote the development of late successional conditions (e.g., taller trees with greater canopy complexity) at a more rapid rate than is currently occurring. This would improve the ability of the riparian area to provide cool microclimates to area streams at a more rapid rate than if treatments were not conducted. The potential for short-term increases in water temperature is minor because the Proposed Action includes retention of a minimum of 60% of canopy cover adjacent to streams.

The Proposed Action would remove roads, crossings, cross drains, and other impediments to drainage patterns, which would help restore a natural drainage pattern and reduce the potential for chronic and catastrophic erosion and sediment delivery to streams. There is the potential for the newly completed treatment sites to experience minimal erosion and sediment delivery during the recovery phase. The Proposed Action includes timing restrictions for road reconstruction and/or removal, in-water work area isolation requirements, drainage structure and stream crossing maintenance requirements, erosion control adjacent to stream channels, not placing recontoured road fill on wet sections of road, and the use of monitoring to ensure proper stream crossing removal techniques to manage erosion and sediment delivery. The Proposed Action also includes the potential to install temporary bridges to access treatment areas. Temporary bridges would fully span the channel (i.e., not restrict the channel) and would not impede or redirect flood flows.

The Proposed Action could temporarily impact state or federally protected wetlands in the project area during road reoccupation and removal and large wood placement. However, implementation activities would have a long-term benefit on wetlands by reducing sediment input, and stream crossing removal would result in additional wetland and riparian areas that were previously occupied by road prisms or culverts. Riparian and wetland plantings would also have a long-term benefit on wetlands in the project area. Work in wetland or riparian areas and stream channels may require heavy equipment to cross wetlands to access treatment sites. Crane mats or other appropriate cover material would be placed along the heavy equipment access routes that cross wetlands and herbaceous-dominated habitats (e.g., pasture, grasslands) to avoid wetland impacts.

The cumulative adverse effects on hydrology, water quality, and floodplains in and around the project area are related to past logging and road building practices. The Proposed Action is designed to provide long-term benefits to instream water quality and hydrology by repairing some of the damage caused by past projects and practices.

Effects on Biological Resources

The Proposed Action may cause limited short-term impacts to special-status species; however, habitat conditions for special-status species in the project area are expected to be substantially improved in the long term.

Vegetation

Sitka spruce forest and redwood forest occur in the project area and would be impacted during implementation activities. The forest stands that would be thinned during the Proposed Action consist of unnaturally dense young forests that have been degraded by historical land use activities. Consistent with the GMP/GP, the Proposed Action would rehabilitate sensitive natural communities within the project area and restore ecosystem function and processes to these degraded habitats. Riparian restoration activities would improve vegetative conditions along Prairie Creek and the adjacent wetlands by shading out invasive reed canary grass over time. Sitka spruce, redwood, big leaf maple, or other appropriate species would be planted along well-drained soils within 200 feet of both sides of the stream channel. These activities would improve the conditions of riparian zones in the project area that have been altered by past road building, timber harvesting, and associated bank erosion and landslides. Prior to the start of implementation activities, special-status plant surveys would be conducted and any individual or populations of rare, threatened, endangered plants, and those listed as California Native Plant Society Ranks 1 and 2 identified during pre-implementation special-status plant surveys would be clearly marked with an appropriate buffer and avoided. If avoidance is not possible, then the California Department of Fish and Wildlife would be consulted to determine a mutually agreeable strategy. For some species, the temporary disturbance associated with vegetation management activities would result in a net benefit to special-status plant populations, especially thinning that would create openings in the forest.

Fish

The Proposed Action would improve fish passage at culverts and remove legacy roads and stream crossings, which would improve habitat conditions for special-status fish in the long-term. However, these actions could increase sediment delivery to streams that support special-status fish, resulting in short-term impacts on special-status fish species or their habitat during operations.

NPS determined, and NMFS concurred, that the Proposed Action may affect and is likely to adversely affect Chinook salmon, coho salmon, and steelhead trout. Proposed Action implementation activities associated with heavy equipment would occur during the non-rainy season. Stream crossing excavations and culvert replacements would occur in dry channels or in channels where stream flow is diverted around the excavation site. A fish rescue and relocation protocol would be implemented when conducting dewatering activities within special-status fish-bearing streams. Erosion control measures, such as placing mulch to reduce runoff into stream channels, would be implemented to

reduce project-related sediment delivery into area streams. Large wood encountered during stream crossing excavations would be retained on site or used as in-channel habitat. Equipment exclusion zones would be set to buffer perennial, intermittent, and ephemeral streams from activities on dry lands (i.e., those not associated with stream crossings, instream large wood placement, and road removal operations). Large wood would be placed into channels to aid in the development of complex fish habitat by creating areas of lower velocity during higher flows, providing additional instream cover, scouring pools, and recruiting wood. The placement of large wood in streams would improve habitat conditions and be beneficial for fish. While individual fish may be flushed from cover areas when logs or whole trees are set into the creeks, this disturbance is expected to be minor and very short lived because individual fish can easily move short distances away from the wood placement areas to find cover.

Amphibians

Seeps, springs, streams, rivers, and riparian habitats that support amphibian species are present within the project area. Proposed Action activities are anticipated to primarily occur during the dry season (i.e., summer and fall months). However, implementation activities may extend into winter. Amphibian survey requirements, habitat modification, and operational restrictions for all activities would be implemented in conformance with requirements. A foothill yellow-legged frog survey would be conducted prior to operations to determine whether frogs are occupying the project site. If foothill yellow-legged frogs or other amphibians are found to be occupying a site, then protection measures would be implemented to minimize take of individuals. Prior to implementation of activities on dry lands, (i.e., those not associated with stream crossings, instream large wood placement, and road removal operations) equipment exclusion zones would be established in areas near streams. At least 60% of canopy cover adjacent to streams would be retained so that sustained increases in water temperature would not occur in Pacific tailed frog and southern torrent salamander habitat.

Birds

Bird species would benefit from the forest thinning activities, which would promote the development of late successional conditions more rapidly than is currently occurring in the overstocked stands. However, implementation activities could affect habitat and cause noise disturbances, which could result in disturbance to or mortality of nesting birds. Potential impacts could include adult nest abandonment due to noise above ambient conditions or habitat removal resulting in physical harm to young or eggs.

NPS determined, and USFWS concurred, that the Proposed Action may affect and is likely to adversely affect marbled murrelet. Improved late successional conditions would aid in connecting isolated marbled murrelet stands in Redwood Creek and Prairie Creek. Forest restoration activities would retain all trees that are 30 inches in diameter at breast height or larger. The Proposed Action

also incorporates wildlife tree retention standards, which would preserve suitable nesting structure within the project area. All above-ambient-noise-producing work that would occur during the marbled murrelet noise restriction period (March 24 to September 15) within 1,320 feet of suitable marbled murrelet nesting habitat would comply with the USFWS noise restriction guidelines and be restricted to between 2 hours after sunrise to 2 hours before sunset. Contractors and RNSP staff working in the project area would pack out all food scraps and trash, including fruit cores and peels and other uneaten food items, to ensure that corvids and other murrelet predators are not increasingly attracted to the vicinity of suitable marbled murrelet habitat during and upon completion of project work.

NPS determined, and USFWS concurred, that the Proposed Action may affect but is not likely to adversely affect northern spotted owl. The Proposed Action would result in improvements in northern spotted owl habitat by increasing the forest floor shrub layer, which would provide habitat for small mammal prey species (e.g., voles and woodrats). There is the potential that nesting northern spotted owl could be affected by noise or habitat removal resulting from the Proposed Action. Active northern spotted owl nests would be buffered from implementation activities, with the buffer widths and any associated thinning activities within the buffers determined through agency consultation. Forest canopy would average at least 60% over forest restoration units.

Forest thinning is expected to result in higher-quality nesting habitat for special-status raptor species through the development of an advanced-successional conifer forest at a more rapid rate than if treatments were not conducted. There is a potential that noise created from thinning operations and habitat improvement actions could impact these species if they are breeding in the area. Implementation activities would not occur within raptor temporal and spatial buffers.

Thinning of overstocked stands would result in higher-quality nesting habitat for migratory birds, such as Vaux's swifts, which nest in tree holes or cavities found in late-successional forest. However, there is a potential for habitat removal through tree removal or noise disturbance as a result of implementing the Proposed Action. There is the potential that instream wood placement could also affect willow flycatcher, if present. Project activities that modify or disturb vegetation would not occur during the peak nesting season between May 1 to June 30 to avoid nesting migratory birds, and if any vegetation manipulation or road removal is deemed necessary during the typical breeding period (May 1 to July 31), an RNSP biologist would conduct weekly breeding bird surveys within the area of potential disturbance. If occupied nests are detected, work would either be suspended until the birds have fledged, or a spatial buffer would be applied to protect the nest.

Mammals

The Proposed Action would promote tree species composition and structural changes that together favor the development of a late-seral forest conditions. Features such as hollows in large trees, snags,

and complex structure would benefit habitat for special-status mammals. A portion of intermediate trees or snags would be retained; the largest trees in the stand would be retained; striking residual old-growth trees would be avoided; and wildlife trees that have characteristics such as cavities, hollows, and snag tops would be retained. All snags that do not pose a threat to human safety would be retained. In addition, road removal activities would result in reduced habitat fragmentation, reduced generalist carnivores that prey on forest specialists such as the Humboldt marten and Pacific fisher and reduced human disturbance of these species. The expected increase in the forest floor shrub layer would provide increased understory habitat for small mammal species that are the prey base for larger animals such as the Humboldt marten and Pacific fisher.

In terms of cumulative effects on biological resources, the Proposed Action is designed to result in improved habitat features for avian, terrestrial, and aquatic-dependent species in the long term. Any adverse effect resulting from implementation activities would be short term and minor.

Effects on Cultural Resources

In the GPC Phase 1 project area where archaeological survey occurred, the following resources were identified:

- Five historic-era built environment resources (all log bridges; one of which is combined with a road listed in the bullet below below)
- Nine historic-era archaeological resources (four historic debris scatters and five historic roads)
- Thirteen isolated historic-era items

No precontact era resources were identified. Only two of the identified historic-era resources were recommended eligible for listing in the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR). One (site GPC-6) is a large historic debris scatter. GPC-6 is recommended as eligible under NRHP Criterion D (CRHR 4) at a local level of significance for its potential to provide additional information on logging camps. It has a period of significance from the 1950s through 1967s, tying it into the years of operation of the Wolf Creek Logging Company. The other eligible resource is the Logging Road to King Creek, a possible early corduroy road. It is recommended as eligible for listing in the NRHP and CRHR under Criterion C (CRHR 3) as an example of an early and rarely extant type of logging road construction, and under Criterion D (CRHR 4) for its potential to provide additional information on corduroy road construction and associated technologies.

Planned implementation activities in the vicinity of GPC-6 include forest restoration via ground-based operations. Planned implementation activities in the vicinity of the Logging Road to King Creek include forest restoration via ground-based and skyline operations. In both areas, this work has the potential for ground disturbance of up to 1 foot. NPS would establish an environmentally sensitive buffer area around each resource, which would prevent vehicles from

traversing them or trees being felled toward them. The buffer would avoid impacts to the resources. No impacts to cultural resources are expected in areas surveyed as part of Phase 1.

Only Units 1 through 6, the Berry Glen Unit, and access and staging areas on Wolf Creek Logging Spur Road were inventoried for cultural resources as part of Phase 1 surveying effort. NPS will enter into a Programmatic Agreement in accordance with 36 CFR 800.14(b)(3) for phased identification of historic properties, or will complete consultations in accordance with Section 106 of the National Historic Preservation Act (2008) and its implementing regulations (36 CFR 800), including consultation with the California SHPO and tribes as appropriate. Phases that occur only on CDPR land with no NPS funding or approval would be governed by SPRs and PSRs developed to avoid significant project-related impacts. Therefore, future phases would be defined and implemented to avoid impacts on historical resources (as is the case for Phase 1).

Effects on Recreation

In the short term, public access to some hiking and biking trails within the project area would be prohibited due to implementation activities, but these restrictions would be temporary (seasonally over 2 to 4 years). Other biking and hiking trails would still be accessible to the public during these temporary closures. In the long term, ecosystem restoration activities, including forest thinning, would increase the aesthetic value of the park, thereby encouraging its recreational use, but not to a significant degree, because most of the project area is and would remain relatively inaccessible to and rarely used by visitors.

In terms of cumulative effects, historic timber management practices (clearcut tractor logging, road building, and minimal road maintenance) have limited some recreational activities because land that could potentially be used for recreation was off limits to the public. However, recreational opportunities in forested areas have increased with park ownership and the Proposed Action would maintain the availability of recreational activities.

Effects on Aesthetics

Scenic quality would be affected initially during thinning operations because spaces between trees and decomposing slash from thinning operations; excavation or grading from road reoccupation and removal activities; and large wood placement activities could be visible in the short term to park visitors traversing the project area on hiking, biking, or equestrian trails, or viewing it from a scenic vantage point. No new permanent light sources would be introduced into the landscape as part of the Proposed Action. Implementation activities would generally be limited to daylight hours, minimizing the need for construction work lights. Worker vehicles may travel through the project area before dawn or after dusk. Larger trees, which moderate light intensities and provide shade within the project area, would be preserved within the treatment areas.

Large wood placement along the mainstem of Prairie, StreeLOW, and May creeks would be visible to people walking through the areas. Trees planted in the riparian corridors and around wetlands as well as road removal activities would be visible during implementation activities but would contribute to enhancing the overall aesthetics of the park in the longer term.

The Proposed Action is intended to enhance, among other values, the long-term aesthetic quality of the project area by facilitating the redevelopment of old-growth forests and aquatic ecosystems, thereby addressing past impacts of over-harvesting and road development. Scenic quality would likely improve over decades as thinned forests develop diverse understory vegetation and the forest canopy stratifies, although the project area would not be considered highly scenic until it achieves and maintains the characteristics of an old-growth forest.

Effects on Socioeconomics

Under the Proposed Action, there would be negligible, short-term impacts related to implementation activities and potentially a positive impact to socioeconomics related to increased tourism in the region. There could be an economic benefit to the local economy from contracted services, such as temporary local worker employment to implement the Proposed Action's implementation activities, and from the purchase of materials and plantings, such as seeds and trees. There could be positive long-term impacts on socioeconomics based on improving the condition of the forest and aesthetic value, which could lead to more tourism and visitors passing through Orick.

The historic timber industry was once a large and important part of the regional economy. The creation and expansion of the park in 1968 and 1978, the removal of most of the old-growth trees, and the enactment of laws protecting water quality and endangered species contributed to the decline of the logging industry as the principal source of income for the larger project area. However, even if logging was not limited by laws and regulation, the industry may have decreased due to declining resources. The Proposed Action may contribute to an economic benefit to the local economy from contracted services, such as temporary local worker employment to carry out the implementation activities.

Conclusions

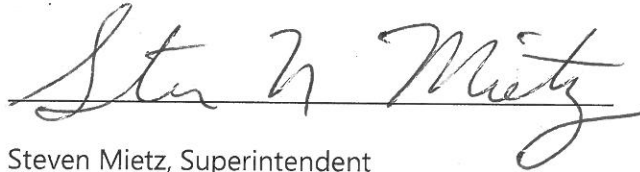
As summarized above, the effects of the Proposed Action have been considered and are determined to be less than significant. These effects have also been considered under the criteria for significance listed in the CEQ regulations (40 CFR 1508.27) and found to be less than significant.

Basis for Decision

Based on the environmental assessment, analyses of issues and alternatives, together with consideration of the minimal public interest expressed; and the relation between public interest and laws, statutes, and regulations for managing NPS units, NPS will implement as its selected action the project described as the Proposed Action in the GPC Ecosystem Restoration ISND/EA dated April 2019.

It is the determination of NPS that the selected action to conduct forest and aquatic restoration and road removal in the GPC watershed neither constitutes 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 forest restoration, watershed restoration, and road removal described in the 1999 GMP/GP and 2000 Record of Decision. Therefore, in compliance with NEPA, NPS will not prepare an environmental impact statement, and will proceed with implementation of the project as soon as practicable.

Recommended:



Steven Mietz, Superintendent
Redwood National Park

7/23/19

Date

Approved:



Stan Austin, Regional Director
Pacific West Region

7/26/19

Date