

# Determination of Non-Impairment Greater Prairie Creek Ecosystem Restoration Project Redwood National and State Parks Humboldt County, California

This determination of non-impairment has been prepared for the Greater Prairie Creek (GPC) Ecosystem Restoration Project (Project), or the selected action as described in the Finding of No Significant Impact for the GPC Ecosystem Restoration Project Initial Study/Negative Declaration and EA (ISND/EA).

Congress directed the U.S. Department of the Interior and the National Park Service (NPS) to manage units "to conserve the scenery, natural and historic objects, and wildlife in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wildlife in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (54 United States Code 100101). An action constitutes impairment when its impacts "harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values" (NPS Management Policies 2006 [Management Policies 2006], Section 1.4.5). To determine impairment, NPS must evaluate the "particular resources and values that will be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts" (Management Policies 2006, Section 1.4.5). Although Congress has given NPS the management discretion to allow certain impacts within the park, that discretion is limited by the statutory requirement that NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values.

As stated in the Management Policies 2006 (Section 1.4.5), an impact to any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the non-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects.

The following resource topics analyzed in the ISND/EA are applicable to evaluation of the Project for potential impairment: air quality, greenhouse gas emissions, biological resources, geology and soils, hydrology and water quality, cultural resources, and tribal cultural resources.

A non-impairment determination is not made for aesthetics, agriculture and forestry resources, hazards and hazardous materials, land use and planning, noise, recreation, socioeconomics, transportation, and wildfire because these are not considered to be park resources or values subject to the non-impairment standard established by the Organic Act and clarified further in Section 1.4.6 of the Management Policies 2006.

## **Air Quality**

Implementing ecosystem restoration activities in the GPC project area will result in adverse impacts to air quality primarily through the emission of criteria air pollutants, toxic air contaminants, and fugitive dust. In addition, grading and soil movement has the potential to generate dust. The Project

includes 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 Project will generate emissions during implementation activities, emissions will be short term, localized, and minor, and will not violate air quality standards.

No significant air quality related values will be affected outside of the immediate area where equipment is operating. Dust and emissions will be temporary. As a result, there will be minor negligible impacts to air quality from implementing the Project. The minor and negligible long-term adverse effects on soils are acceptable because the impacts result from an action needed to achieve objectives for restoration outlined in the 1999 General Management Plan (GMP). As a result, there will be no impairment to air quality from implementing the Project.

## **Greenhouse Gas Emissions**

Implementing ecosystem restoration activities in the GPC project area will result in short-term GHG emissions from implementation activities involving use of diesel- and gas-powered equipment and forest thinning. These short-term adverse effects on greenhouse gas emissions are negligible and necessary to achieve restoration objectives, and therefore acceptable. In the long-term, restoration will lead to a more diverse, resilient, and robust ecosystem and will result in a net decrease in greenhouse gas emissions through sequestration. As a result, there will be no new long-term impairment to greenhouse gas emissions from implementing the Project.

## **Biological Resources**

Implementing ecosystem restoration activities in the GPC project area 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. Because short-term adverse effects to special-status species are necessary to achieve restoration objective and improvement of habitat conditions for special-status species in the long term, these short-term adverse effects are acceptable. The Project will result in long-term benefits to forest structure and its associated vegetation community, fish, amphibians, birds, and mammals. There will be no new long-term impairment to biological resources from implementing ecosystem restoration activities in the GPC project area.

## *Vegetation*

The Project will use heavy equipment to assist in the thinning of dense second-growth forests and remove legacy roads and/or stream crossings, which could impact populations of special-status plants. Consistent with the GMP, the Project will rehabilitate sensitive natural communities within the project area and restore ecosystem function and processes to these degraded habitats. Riparian

restoration activities will 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 will be planted along well-drained soils within 200 feet of both sides of the stream channel. The effect of thinning will be a negligible short-term adverse effect from removal of individual trees and a moderate long-term benefit to forest community structure in the project area. Accordingly, implementing ecosystem restoration activities in the GPC project area will not further impair vegetation values or function and in the long term will reduce impairment to vegetation.

### *Fish*

The Project will improve fish passage at culverts and remove legacy roads and stream crossings, which will 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 the National Marine Fisheries Service concurred, that the Project may affect and is likely to adversely affect Chinook salmon, coho salmon, and steelhead trout. Project implementation activities associated with heavy equipment will occur during the non-rainy season. Stream crossing excavations and culvert replacements will occur in dry channels or in channels where stream flow is diverted around the excavation site. A fish rescue and relocation protocol will 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, will be implemented to reduce project-related sediment delivery into area streams. Large wood encountered during stream crossing excavations will be retained on site or used as in-channel habitat. Equipment exclusion zones will 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 will 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 will 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. Accordingly, implementing ecosystem restoration activities in the GPC project area will not cause further impairment to fish species.

### *Amphibians*

Seeps, springs, streams, rivers, and riparian habitats that support amphibian species are present within the project area. The impacts of the Project on southern torrent salamanders and tailed frogs

will be negligible. Planting of trees along streams in the project area will eventually provide future large wood for natural recruitment to the channel. These activities will neither encroach into the stream channel nor result in increased sediment delivery. Accordingly, implementing ecosystem restoration activities in the GPC project area will not cause further impairment to amphibian species.

### *Birds*

Bird species will benefit from the forest thinning activities, which will 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 the U.S. Fish and Wildlife Service (USFWS) concurred, that the Project may affect and is likely to adversely affect marbled murrelet. Improved late successional conditions will aid in connecting isolated marbled murrelet stands in Redwood Creek and Prairie Creek. Forest restoration activities will retain all trees that are 30 inches in diameter at breast height or larger. The Project also incorporates wildlife tree retention standards, which will preserve suitable nesting structure within the project area. All above-ambient-noise-producing work that will occur during the marbled murrelet noise restriction period (March 24 to September 15) within 1,320 feet of suitable marbled murrelet nesting habitat will comply with the USFWS noise restriction guidelines and be restricted to between 2 hours after sunrise to 2 hours before sunset. Contractors and Redwood National and State Parks (RNSP) staff working in the project area will 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 Project may affect but is not likely to adversely affect northern spotted owl. The Project will result in improvements in northern spotted owl habitat by increasing the forest floor shrub layer, which will 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 Project. Active northern spotted owl nests will be buffered from implementation activities, with the buffer widths and any associated thinning activities within the buffers determined through agency consultation. Forest canopy will 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 will not occur within raptor temporal and spatial buffers.

Thinning of overstocked stands will 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 Project. There is the potential that instream wood placement could also affect willow flycatcher, if present. Project activities that modify or disturb vegetation will 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 will conduct weekly breeding bird surveys within the area of potential disturbance. If occupied nests are detected, work will either be suspended until the birds have fledged, or a spatial buffer will be applied to protect the nest.

Accordingly, implementing ecosystem restoration activities in the GPC project area will not cause further impairment to bird species and in the long term will reduce existing impairment.

### *Mammals*

The Project will promote tree species composition and structural changes that together favor the development of a late-seral forest conditions. The expected increase in the forest floor shrub layer will provide increased understory habitat for small mammal species that are the prey base for larger animals such as the Humboldt marten and Pacific fisher. Therefore, the Project will have a negligible benefit to mammals in the project area and will not cause further impairment to mammals.

### **Geology and Soils**

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. The Project includes treatments to prevent erosion. Combined with other past present and future forest restoration and maintenance activities, the Project will address restoration of natural systems. In addition, it will not increase exposure of people or structures to loss, injury, or death for seismic or other geological events. As a result, there will be reduced impairment to geology and soils from implementing the Project as more natural conditions are reestablished.

### **Hydrology and Water Quality**

The Project is designed to provide benefits to instream water quality and hydrology by repairing some of the damage caused by past projects and practices. Combined with other present and future forest restoration and maintenance activities, the Project will have a cumulative benefit to hydrology and water quality, because it is designed to provide long-term benefits to instream habitats and

water quality. Therefore, the Project will reduce impairment to hydrology or water quality in the project area.

## 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 will establish an environmentally sensitive buffer area around each resource, which will prevent vehicles from traversing them or trees being felled toward them. The buffer will avoid impacts to the resources. Therefore, the Project is not anticipated to result in impairment of cultural resources 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 Code of Federal Regulations (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 State Historic Preservation Officer and tribes as appropriate. Phases that occur only on California Department of Parks and Recreation land with no NPS funding or approval will be governed by standard project requirements and

project-specific requirements developed to avoid significant project-related impacts. Therefore, future phases will be defined and implemented to avoid impacts on historical resources (as is the case for Phase 1). The Project will not result in impairment of cultural resources.

## **Tribal Cultural Resources**

No tribal cultural resources have been identified in the Phase 1 project area, and Phase 1 will not result in impacts to any potential tribal cultural resources (the precontact sites or ethnographic location). For future phases of the Project, tribal consultation will occur throughout and prior to implementation planning. Projects will be defined and implemented to avoid impacts to tribal cultural resources.

The Project will not result in impairment of tribal cultural resources because there are no known resources present in the project area and monitoring will detect any currently unknown tribal cultural resources.

## **Summary**

NPS has determined that implementing ecosystem restoration activities in the GPC project area will not constitute an impairment of the resources or values of the park. It is anticipated that the Project will result in an overall reduction of impairment to a number of key resources. This conclusion is based on consideration of the park's purpose and significance, a thorough analysis of the environmental impacts described in the environmental assessment, comments provided by the public and others, and the professional judgment of the decision maker guided by the direction of the Management Policies 2006.