Supplemental Environmental Assessment to the Programmatic Environmental Assessment for Recurring Actions in Arizona, California, and Nevada

Stabilization and Revegetation of Hood Mountain

Sonoma County, California

HMGP # 4344-0302-33

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FEMA

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Acronyms

APE	Area of Potential Effect
Cal OES	California Governor's Office of Emergency Services
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CRHR	California Register of Historical Resources
EFH	Essential Fish Habitat
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIGR THPO	Federated Indians of Graton Rancheria Tribal Historic Preservation Office
FIRM	Flood Insurance Rate Map
HMGP	Hazard Mitigation Grant Program
IPaC	Information for Planning and Consultation
NAHC	California Native American Heritage Commission
NAVD88	North American Vertical Datum of 1988
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
NMFS	National Marine Fisheries Service
NO_X	nitrogen oxide
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	ozone
PM	particulate matter
PEA	Final Programmatic Environmental Assessment for Recurring Actions in Arizona, California, and Nevada
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Office

U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound

1 Introduction

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide federal financial assistance to the County of Sonoma Regional Parks Department (County or Subrecipient), through the California Governor's Office of Emergency Services (Cal OES or Recipient), for a wildfire mitigation project. The project would be funded under FEMA's Hazard Mitigation Grant Program (HMGP). The County is proposing to implement erosion and sediment control measures, along with revegetation, on land in Hood Mountain Regional Park, which was affected by the 2017 Nuns Fire in Sonoma County (Proposed Action). Hood Mountain Regional Park is a public park managed by Sonoma County. The project area includes 22.5 acres of the park that straddles the watershed divide between Santa Rosa Creek and Sonoma Creek. The project latitude and longitude are 38.463303, −122.566505.

1.1 Scope of Document

This Supplemental Environmental Assessment (SEA) evaluates the range of potential environmental impacts if the Proposed Action is implemented and evaluates the applicability of the December 2014 *Final Programmatic Environmental Assessment for Recurring Actions in Arizona, California, and Nevada* (PEA) and the March 2019 *Supplemental Environmental Assessment to the Final Programmatic Environmental Assessment for Recurring Activities in Arizona, California, and Nevada*.

FEMA prepared this SEA because the type of action proposed under the Proposed Action does not fall under the range of actions evaluated in the PEA. However, FEMA determined that the activities conducted under the Proposed Action are similar to the activities evaluated in the PEA, and thus the potential impacts of the Proposed Action would be similar to the impacts described in the PEA. That is, even though the type of action is not described in the PEA, the means and methods to achieve the action and the resulting impacts of those activities (e.g., soil disturbance, use of mechanical equipment, planting) are similar to those evaluated in the PEA. The SEA compares the impacts of the Proposed Action to the impacts described in the PEA.

1.2 Purpose and Need for the Action

The purpose of the project is to prevent erosion by stabilizing soils exposed as a result of fire suppression activities during the October 2017 Nuns Fire. The 2017 fire burned more than 56,556 acres in Sonoma and Napa Counties, including more than 1,000 acres within Hood Mountain Regional Park. The fire burned 43 percent of the Sonoma Creek watershed and 29 percent of the Napa River watershed. A swath of land along a ridgeline in the park (the project area) was bulldozed as a fire break, successfully stopping further advancement of the wildfire.

The Proposed Action would revegetate and stabilize the bulldozer lines along the ridgeline to prevent rainfall from mobilizing exposed soils, reduce the rainfall impact, and facilitate infiltration. Implementation of the Proposed Action would reduce the potential for flooding and debris flows. Because the work is along a ridgeline, the benefits would extend to the Santa Rosa and Sonoma Creek watersheds, benefiting 686 acres downstream of the ridgeline. The County has determined that the 686-acre area currently has a 20 to 40 percent likelihood of post-fire

debris flow. The Proposed Action also would help to protect a water reservoir used to fight wildfires and two residences.

2 Description of the Proposed Action and Alternatives

2.1 No Action Alternative

The No Action Alternative is described in Section 2.1 of the PEA. Under the No Action Alternative, FEMA financial assistance would not be provided to the Subrecipient to implement activities to stabilize and revegetate the affected area. Without FEMA financial assistance, the Subrecipient would have to rely on other public or private funds.

2.2 Proposed Action

The Proposed Action would involve the following activities:

- Supplemental seed collection
- Install erosion control measures and minor recontouring
- Distribute woody debris (slash)
- Create microberms around seedlings
- Broadcast and rake in herbaceous seed
- Direct seed, cage, and microberm woody plants
- Plant, cage, and microberm plants propagated off-site

The term "microberm" refers to a planting technique where a small 1- to 2-inch berm is created around a seedling or small plant to assist in the establishment of the plant. The microberm holds water around and provides shade to the seedling. The microberm slows water and air moving along the surface and keeps soil and water around the plant while it is becoming established and being maintained (particularly in the first season) (University of California, Davis 2015). The degree of microberming necessary in the project area would be determined in later design stages and would not be implemented for every plant. Microberming could be limited to species that are more susceptible to desiccation (removal of moisture) or subject to the most solar exposure in the project area.

Figure 1 shows the project area and access road to the site. **Figure 2** shows the specific locations where the treatment activities would occur and the project staging areas. **Figure 3** shows the surrounding trail network, including the Panorama Trail. Vehicles would access the site via the Panorama Trail, which is routinely traveled by Sonoma County Regional Parks staff. The access road is the continuation of Pythian Road and is referred to as the Panorama Trail, where the road and trail are the same. Each activity is described in the following sections.

Initial Seed Collection

To confirm site-adapted, genetically appropriate plant material can be used to restore the project area, some seed collection would occur before the grant period. In addition to, but separate from, the activities proposed for funding through the FEMA HMGP, the Subrecipient would also conduct an initial seed collection from seed sources within the regional park system and Sonoma County that would be used to reseed the project area.

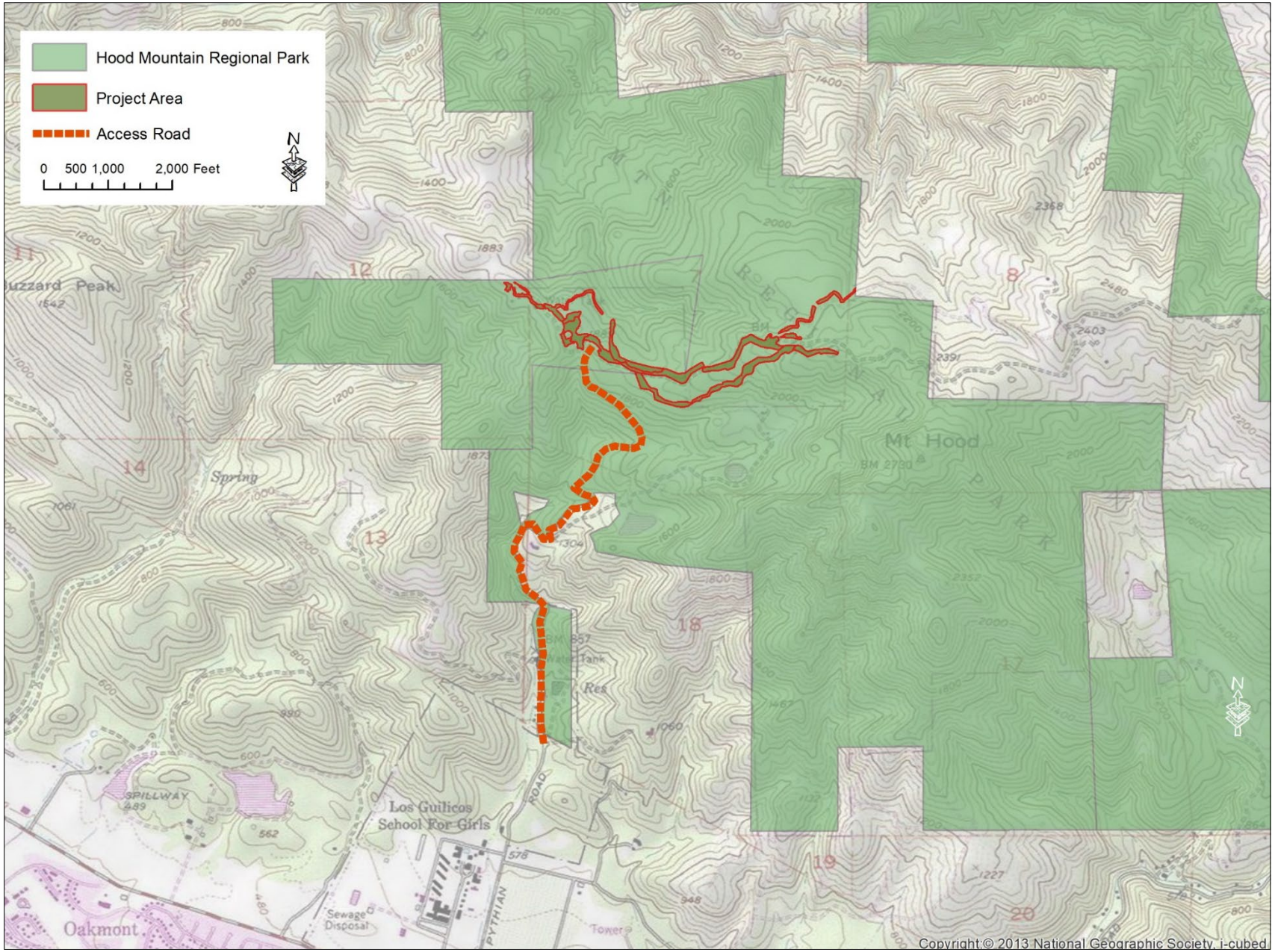

Figure 1: Project Area

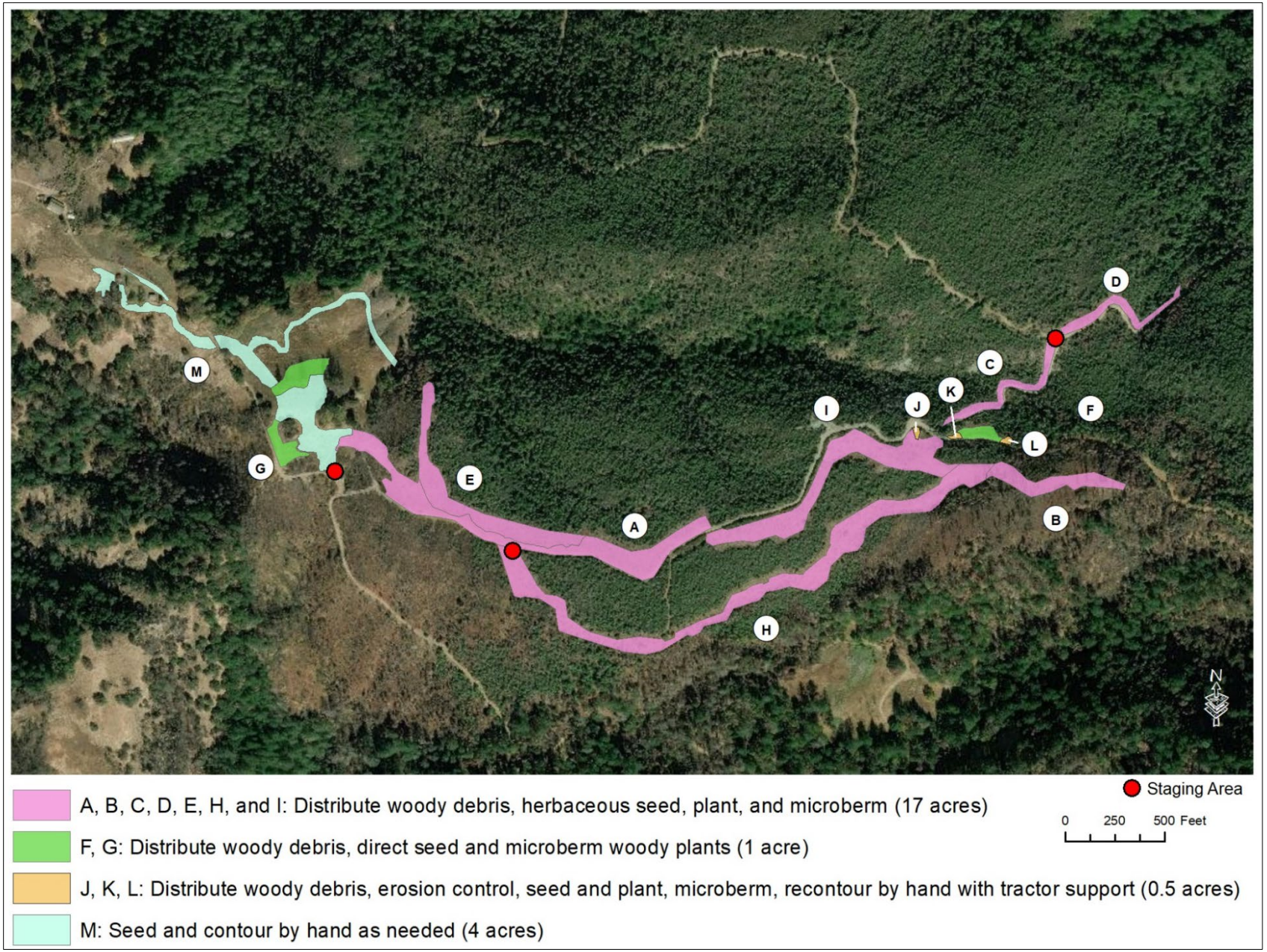

Figure 2: Treatment Areas

Figure 3: Trail System

The project area contains a rare plant community known as the "pygmy forest" that grows in "serpentine" soil conditions. Serpentine vegetation grows on serpentine soils that weather from rocks that contain serpentine minerals, including chrysolite, antigorite, and lizardite (University of California 1993). Certain vegetation communities have adapted to these unique soil conditions such as those in the pygmy forest.

Table 1 summarizes the target plant species to be collected during the initial seed collection period (other species may be collected). All species selected would be appropriate for the unique conditions of the pygmy forest. None are specifically fire-resistant, but they have various fire adaptations like all California native species.

Table 1: Target Plant Species

Common name	Scientific name
Woody Species	
Ceanothus	*Ceanothus (sonomensis, divergens, 6onfuses)*
Coffeeberry	*Frangula californica*
Leather oak	*Quercus durata*
Sargent cypress	*Cupressus sargentii*
Whiteleaf manzanita	*Arctostaphylo sviscida*
Herbaceous Species	
Coyote mint	*Monardella villosa*
Serpentine reed grass	*Calamagrostis ophiditis*
Short stem sedge	*Carex brevicaulis*
Torrey's melic grass	*Melica torreyana*
Yarrow Achillea	*Achillea millefolium*

Supplemental Seed Collection

Supplemental seed collection would capture any species not represented in the initial seed collection and would add to the seed already collected. The collection would be limited to less than 1 percent of any single population or occurrence of each target species. Seeds would be collected from the following priority areas:

1. Pygmy forest areas of Hood Mountain Regional Park
2. Other areas of Hood Mountain Regional Park
3. Areas within the watersheds and greater Sonoma County with appropriate species

This process would limit the need to use commercially available sources and is a generally approved best practice. However, the purchase and use of commercial seed may be required if collected quantities are not sufficient. All targeted species would be appropriate for the unique conditions of the pygmy forest. None of the species proposed to be collected are specifically fire-resistant but each has some degree of fire adaptation like all California native species. Seed collection will be timed with ripening of specific species.

Install Erosion Control Measures and Minor Recontour

The Subrecipient has identified several relatively small areas of erosion concern since the 2017 fire; the combined total of these areas is 0.5 acres. These areas are generally adjacent to the road.

No woody debris or seedling regeneration occurred in these areas during the first year of recovery, and rills (small channels created by surface runoff of rain and other precipitation) have developed.

Treatment in these areas would include recontouring soils to slow the flow of water and improve infiltration, installing wattles, and seeding. These areas would be planted with woody species. Recontouring would be primarily by hand, but 1 or 2 days of work with a small tractor is anticipated. Seeding may be needed at higher rates in these areas than in other portions of the project area, based on the degree of natural regeneration that occurs before implementation. Wattles would be installed in these areas to minimize the impact of erosion and sedimentation while the project is being implemented. This activity would occur in Map Areas J, K, and L (**Figure 2**).

Distribute Woody Debris (Slash)

Many of the trees and shrubs that were pushed out of the way to create the fire break were pulled back across the disturbed area by crews mobilized to conduct "suppression repair" after the wildfire threat had abated. These bulldozed trees, shrubs, and other associated plant debris are commonly referred to as "slash."

Despite the previous efforts to repair the bulldozed fire break, approximately 6 acres remain as bare soil, free of slash. Slash protects the soil from erosion by breaking up or dampening rainfall impact, shades naturally recruiting seedlings, and slows or halts surface erosion by blocking the movement of soil downslope. Seedlings protected by slash are able to grow more quickly into plants that hold the soil and break up rain impact. Slash would be redistributed to cover the bare soil areas. Slash would likely be distributed by hand-crews using logging equipment such as hookaroons, which are used to lift, drag, or otherwise move woody material over short distances.

Because there may not be enough slash on the ground in the project area, work may damage seedlings that have established since the fire and harvesting woody debris from the surrounding area may be required to cover the bare soil on-site. Any freshly harvested woody debris would be limited to small size classes and would be dead and dying wood. Woody debris would be harvested from along an existing trail network, and no new access roads or trails would be created. Therefore, this activity would be exempt from timber harvest planning requirements. Distribution of woody debris would take place in all treatment areas except Map Area M (**Figure 2**).

Create Microberms Around Seedlings

Crews would create tiny berms around existing seedlings to capture and pond precipitation and surface water runoff and would adjust the positioning of slash to shade seedlings. In an effort to support natural recruitment, the microberms would be created from the first 1 to 2 inches of soil in areas already disturbed by bulldozers as part of the fire break. The ground disturbance would be negligible. This activity would take place in all treatment areas except Map Area M (**Figure 2**).

Broadcast and Rake in Herbaceous Seed

In selected patches, the seed collected from herbaceous species during the initial seed collection phase would be sown and raked into the soil to minimize loss of seed via predation. Some additional recontouring by hand would be done as needed. This activity would take place in Map Area M (**Figure 2**).

Direct Seed, Cage, and Microberm Woody Plants
In Map Areas F and G, naturally recruited woody plants would be directly seeded, microbermed, and surrounded with small metal cages to protect against herbivory (**Figure 2**).

Plant, Cage, and Microberm Plants Propagated Off-site
Some plants would be grown off-site in a nursery setting and available for planting in the restoration area. The off-site-propagated, planted material would be caged and microbermed. A qualified botanist would decide where these plants should be planted based on site conditions and natural recruitment.

Implementation Timeframe
The Subrecipient anticipates a 3-year implementation time frame for the Proposed Action that includes project management, environmental planning, project implementation, community engagement, project maintenance, and grant close-out activities. The supplemental collection is likely to occur in late summer and early fall depending on rainfall and seasonal, site-specific conditions. Seeding and planting activities would occur between months 22 and 24. Maintenance activities would include watering, weed control, replanting of vegetation that has failed, and restoration of microberms 9 months following the seeding and planting.

3 Affected Environment and Environmental Consequences

This section describes the natural and human environment potentially affected by the Proposed Action. When possible, quantitative information is provided to establish potential impacts, and the potential impacts are evaluated qualitatively based on the criteria listed in **Table 2**. The "project area" generally includes the treatment area and access and staging areas needed to implement the Proposed Action.

Table 2: Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes or benefits would be either nondetectable or, if detected, would have impacts that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse impacts.
Moderate	Changes to the resource would be measurable and have either localized or regional-scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse impacts.
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse impacts would be required to reduce impacts, but long-term changes to the resource would be expected.

3.1 Resources Not Present

The following resources are not present in the project area and would not be affected by the Proposed Action:

- Coastal resources (Coastal Zone Management Act)
- Sole Source Aquifers (Safe Water Drinking Act)
- Farmland soils (Farmland Protection Policy Act)
- Federally Designated Wild and Scenic Rivers (Wild and Scenic Rivers Act)

3.2 Geology, Soils, and Topography

Existing Conditions

The project area is in the northern section of the Coast Range Geomorphic Province. Within this geomorphic province, the bedrock geology generally comprises Mesozoic and Cenozoic era (65 million years to 250 million years) sedimentary rocks, which are overlain in areas by Tertiary age (1.6 million years to 65 million years) volcanic rocks (Watershed Emergency Response Team 2017).

Soils in the project area are summarized in **Table 3** based on data provided by the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2019).

Table 3: Project Area Soils

Map Unit Symbol	Map Unit Name	NRCS Erosion Rating	Acres	Percent
HgE	Henneke gravelly loam, 4 to 46 percent slopes, MLRA 15	Moderate	14.5	64.7
GoF	Goulding-Toomes complex, 9 to 50 percent slopes	Severe	4.4	19.5
HgG2	Henneke gravelly loam, 30 to 75 percent slopes, eroded	Severe	2.4	10.6
BoE	Boomer loam, 7 to 50 percent slopes, moist	Severe	1.1	4.9
BoF	Boomer loam, 30 to 50 percent slopes	Very Severe	0.1	0.3
Total			**22.5**	**100.0**

Source: NRCS 2019

The predominant soils in the project area are Henneke gravelly loam, 4 to 46 percent slopes (HgE); Goulding-Toomes complex, 9 to 50 percent slopes (GoF); and Henneke gravelly loam, 30 to 75 percent slopes, eroded (HgG2). The NRCS reports that soils in the project area have an erosion hazard that ranges from moderate to very severe, as summarized in **Table 3**. These soils are unusual serpentine type soils that support the unique natural community of the pygmy forest.

The NRCS erosion hazard rating is based on slope, a soil erosion factor, and an index of rainfall

erosivity (NRCS 2020). A rating of "moderate" indicates that some erosion is likely and that erosion-control measures may be needed. A rating of "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised. A rating of "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures may be costly and generally impractical.

Topography in the project area is hilly/mountainous with elevations ranging from approximately 1,900 to 2,000 feet North American Vertical Datum of 1988 (NAVD88) (U.S. Geological Survey [USGS] 2020).

Impacts of the Proposed Action

The distribution of slash would provide minor short-term benefits to soils by providing immediate ground cover to most of the project area and moderate long-term benefits on soil erosion from revegetation of the area. Over the long term, distribution of slash would protect soils from erosion and loss of nutrients.

Soils would be recontoured in a small 0.5-acre area (Map Areas J, K, and L in **Figure 2)** resulting in minor short-term impacts. The recontouring would be primarily by hand, but 1 to 2 days of work with a small tractor is anticipated. The depth of soil disturbance for recontouring would be less than 24 inches and limited to already disturbed soil that was piled into berms by bulldozers to create the fire break. The intent of the recontouring would be to return the soil to the natural, predisturbance conditions and contours. If left in place, the existing berms could be sites of accelerated erosion.

No short- or long-term impact on or from geological conditions is anticipated.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on soils would be the same as the impacts evaluated in the PEA. The PEA actions include excavation, heavy equipment use, planting, and vegetation removal that were found to result in short-term impacts on soils.

3.3 Air Quality

Existing Conditions

The project is in Sonoma County. U.S. Environmental Protection Agency (EPA) lists the county as moderate nonattainment for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and marginal nonattainment for 8-hour ozone (O_3).

The General Conformity Rule requires that a determination be made of the Proposed Action's conformity with the State Implementation Plan. The emission thresholds for General Conformity Rule Applicability (40 Code of Federal Regulations [CFR] Part 93.153) are 50 tons per year for volatile organic compounds (VOCs), 100 tons per year for nitrogen oxide (NO_X), 100 tons per year for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) or particulate matter less than 10 microns in diameter [PM_{10}], and 100 tons per year for all other criteria pollutants for which the area is in attainment of federal attainment standards.

Impacts of the Proposed Action

The Proposed Action would cause minor short-term impacts on air quality from the operation of vehicles and equipment and generation of dust. The Subrecipient anticipates approximately 100 total vehicle visits over the 3-year implementation period. Most vehicle trips would be

nonspecialized field vehicles such as passenger cars, vans, or trucks to transport contracted crews or Sonoma County Regional Parks staff. Of the 100 total anticipated vehicle visits, approximately 12 visits would be for the purpose of transporting water tanks to provide irrigation maintenance to plants from the roadside only. Two tractors would be used for the minor recontouring of soils over a period of 1 or 2 days. In the long term, the Proposed Action is not expected to cause air quality impacts or be a source of new emissions.

Emission estimates for VOCs, NO_X, PM_{10}, and carbon monoxide (CO) from the Proposed Action would fall below the threshold levels of the General Conformity Rule. Any short-term air quality impacts are expected to meet de minimis standards established by the National Ambient Air Quality Standards for projects in nonattainment areas.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on air quality would be the same as the impacts evaluated in the PEA. The PEA actions include fossil fuel use for construction equipment, use of materials containing VOCs, and fugitive dust emissions from soil disturbance that were found to result in short-term, localized impacts on air quality.

3.4 Water Resources

3.4.1 Surface Water and Groundwater

Existing Conditions

Water resources include surface water, groundwater and stormwater regulated under the Clean Water Act (33 United States Code [U.S.C.] 1251 et seq.) and California law, the Porter-Cologne Water Quality Control Act (Water Code Division 7. Water Quality, 13000 et seq.). There are no surface waters in the project area based on a review of the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) and the USGS National Hydrography Dataset.

The project area is located within the Santa Rosa Plain groundwater subbasin (USGS 2013). Groundwater underlying the project area is contained within volcanic rocks underlying the mountains where the rocks are sufficiently permeable to yield water (USGS 2013). The water table at the groundwater monitoring well closest to the project area is greater than 45 feet.

Impacts of the Proposed Action

Since no surface waters were identified in the project area, no impacts are expected. No withdrawal of groundwater is anticipated for the Proposed Action; therefore, no impact is anticipated.

Comparison of Impacts to the PEA Scope

Since no impact on surface waters, groundwater, or stormwater are anticipated, the Proposed Action is consistent with the scope of impacts evaluated in the PEA.

3.4.2 Wetlands

Existing Conditions

Executive Order (EO) 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990. EO 11990 prohibits FEMA from funding activities in a wetland unless no

practicable alternatives are available.

There are no wetlands in the project area based on a review of the NWI.

Impacts of the Proposed Action

Since no wetlands were identified in the project area, no impacts are expected.

Comparison of Impacts to the PEA Scope

Since no impact on wetlands are anticipated, the Proposed Action is consistent with the scope of impacts evaluated in the PEA.

3.4.3 Floodplains

Existing Conditions

EO 11988, Floodplain Management, requires federal agencies to minimize occupancy and modification of the floodplain. Specifically, EO 11988 prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives. The project area is located outside of the mapped 100-year floodplain shown on Flood Insurance Rate Map (FIRM) panels 06097C0754E and 06097C0760E, dated December 2, 2008.

Impacts of the Proposed Action

Since no floodplains were identified in the project area, no impacts are expected.

Comparison of Impacts to the PEA Scope

Since no impact on floodplains are anticipated, the Proposed Action is consistent with the scope of impacts evaluated in the PEA.

3.5 Biological Resources

3.5.1 Terrestrial and Aquatic Habitat

Existing Conditions

The project area is composed of terrestrial habitat along a ridgeline at an elevation of approximately 1,900 to 2,000 feet (NAVD88). The habitat is in an undeveloped park area denuded of vegetation as a result of fire suppression activities in 2017 (see Section 1.2). The project area does not contain any aquatic habitat; however, there are two small freshwater ponds approximately 1,130 feet south and 1,800 feet downgradient of the project area. The project area is mapped within Essential Fish Habitat (EFH) for coho salmon and Chinook salmon, although there is no suitable habitat for salmon because there is no aquatic habitat.

Impacts of the Proposed Action

The Proposed Action would have minor short-term impacts on terrestrial habitat and wildlife from the use of vehicles and equipment, soil disturbance and recontouring, and planting of vegetation. There are no streams or wetlands in the project area that would be affected by the Proposed Action. Seed would be collected from the target areas described in Section 2.2. No impact on vegetation is anticipated from the seed collection so long as the best management practices (BMPs) described in Section 4.3 are implemented. The Proposed Action would not increase noise levels or light pollution in the long term. The planting of native vegetation and trees would provide a minor benefit to the terrestrial habitats and migratory birds in the long term.

No impact on EFH is anticipated because there would be no in-water work and no modification of aquatic habitat. Project activities would be relatively low impact and would not have direct or indirect impacts on EFH within surface waters associated with the Sonoma Creek or Santa Rosa Creek watersheds.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on habitat would be the same as the impacts evaluated in the PEA. The PEA concludes that short-term impacts on habitat and wildlife from activities in previously disturbed areas would not substantially disturb the biology of a project area, assuming that existing access routes are used, and staging areas are returned to original conditions. The Proposed Action is in previously disturbed areas, would use existing access routes, and return staging areas to original conditions. The PEA also covers the ingress and egress of equipment and personnel during implementation of an activity that could temporarily adversely affect wildlife resources close to the activities, including displacement or mortality of individual wildlife.

3.5.2 Threatened and Endangered Species

Existing Conditions

Qualified biologists evaluated the project area for the presence of federally listed species protected under the Endangered Species Act in July 2019. The evaluation was completed using the Information for Planning and Consultation (IPaC) database and the California Natural Diversity Database (CNDDB). Suitable habitat is not present for any federally listed species within the project area nor is any critical habitat present. The two freshwater ponds southeast of the project area provide potential habitat for the federally threatened California red-legged frog (*Rana draytonii*); however, there are no known occurrences of the species within 4 miles of proposed construction areas based on a review of CNDDB records. The project area and vicinity comprises and borders arid upland habitat that would deter California red-legged frog emigration from nearby pond habitats.

Impacts of the Proposed Action

Based on the findings from the IPaC and CNDDB search, FEMA determined that there would be "No Effect" on any federally listed species. FEMA prepared a No Effect memorandum for the Proposed Action. No consultation with the USFWS or the National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act was necessary. **Appendix A** contains the No Effect Memorandum.

Comparison of Impacts to the PEA Scope

Since no effects on threatened and endangered species are anticipated, the Proposed Action is consistent with the scope of impacts evaluated in the PEA.

3.5.3 Migratory Birds

Existing Conditions

A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The Migratory Bird Treaty Act (MBTA) of 1918, as amended, 16 U.S.C. 703–711, protects migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions. The project area is in the Pacific Flyway, and numerous bird species have the potential to occur in the general area.

Impacts of the Proposed Action

Although project occurs in a flyway zone, it does not have the potential to take migratory birds.

Comparison of Impacts to the PEA Scope

Since no impacts on migratory birds are anticipated, the Proposed Action is consistent with the scope of impacts evaluated in the PEA.

3.5.4 Invasive Species

Existing Conditions

Invasive weeds that are found in the County's park system include the following: medusahead (*Taeniatherum caput-medusae*), Scotch broom (*Cytisus scoparius*), and French broom (*Genista monspessulana*), and pathogens such *Phytophthora ramorum*, a fungus-like water mold that can cause sudden oak death (Sonoma County Regional Parks 2018). Invasive wildlife in the park system include the brown-headed cowbird (*Molothrus ater*), which are known to impact two bird species native to California, and the American bullfrog (*Lithobates catesbeianus*), which eat and compete with California red-legged frog (Sonoma County Regional Parks 2018).

Impacts of the Proposed Action

The Proposed Action would provide minor long-term benefits related to invasive weeds from the planting of native vegetation. The native plantings would reduce the spread of noxious weeds in the project area denuded by fire suppression activities by establishing a ground cover that would prevent their spread. The Proposed Action would not be expected to cause the spread of invasive wildlife such as the cowbird or American bullfrog.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on invasive species would be the same as the impacts evaluated in the PEA. To minimize impacts associated with invasive species, the Subrecipient would use native seed mixes to revegetate the project area with native plants as described in **Section 2.2**.

3.6 Historic Properties and Archaeological Resources

Existing Conditions

FEMA prepared a cultural resource investigation for the project Area of Potential Effect (APE) that included an archival/records search and two field surveys in August 2019 and January 2020. The investigation was completed by archaeologists who meet the Secretary of the Interior's professional qualification standards for archaeology. The investigation was conducted per the *Programmatic Agreement Among the Federal Emergency Management Agency, the California State Historic Preservation Officer, and the California Governor's Office of Emergency Services,* executed on October 29, 2019 (2019 Agreement).

FEMA contacted the California Native American Heritage Commission (NAHC) in July 2019 to initiate the tribal consultation process and request a search of the NAHC Sacred Lands File. FEMA then contacted 15 local Native American tribal representatives identified by the NAHC and other agency databases to solicit any comments or concerns they might have regarding the Proposed Action. The Federated Indians of Graton Rancheria Tribal Historic Preservation Office (FIGR THPO) responded and expressed an interest in participating in the Section 106 consultation process.

The archival and records search included the APE and a surrounding 0.5-mile radius area was conducted through the California Historical Resources Information System (CHRIS). The search identified cultural resources previously recorded within the APE. The August 2019 survey consisted of an intensive pedestrian survey of the APE by qualified archaeologists.

Impacts of the Proposed Action

Based on the above information, FEMA concluded that the Undertaking will have no adverse effect to historic properties. Given the limited nature and vertical extents of proposed activities within the APE, it is unlikely that previously undetected cultural resources or historic properties would be encountered. If cultural materials or human remains are discovered during ground disturbing activities associated with the Undertaking, the measures outlined under Stipulation III.B of the 2019 Agreement will be followed.

FEMA consulted with the State Historic Preservation Office (SHPO) to obtain concurrence on the agency's finding of no adverse effect on March 31, 2020. The SHPO concurred with FEMA's finding of no adverse effect on June 30, 2020 (see **Appendix B**).

Comparison of Impacts to the PEA Scope

The PEA requires that FEMA comply with Section 106 of the National Historic Preservation Act (NHPA). FEMA has fulfilled its responsibility under the NHPA and made a determination of no adverse effect if the Proposed Action is implemented. FEMA also consulted with federally recognized Native American groups per Section 106, including the FIGR THPO.

3.7 Socioeconomics

Existing Conditions

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires agencies to identify and address disproportionately high and adverse human health or environmental effects their activities may have on minority or low-income populations.

The project area is uninhabited public parkland with no residential population. The population of the census block group (ID# 060971516012) where the project area is located is 18 percent minority and 14 percent low income. This is lower than statewide averages, which are 62 and 35 percent, respectively.

Impacts of the Proposed Action

The project would not result in disproportionate and adverse effects on low-income or minority populations.

Comparison of Impacts to the PEA Scope

Since no impact on low-income or minority populations are anticipated, the Proposed Action is consistent with the scope of impacts evaluated in the PEA.

3.8 Public Services and Recreation

Existing Conditions

The project area is in Hood Mountain Regional Park, which is a 1,750-acre wilderness park on the edge of Sonoma County managed by the Sonoma County Regional Parks Department

(Sonoma County Regional Parks 2020). The park offers 19 miles of trail for hikers, mountain bikers, and equestrians. Since 2017, when the southwest portion of Hood Mountain burned in the Nuns Fire, several trails remain closed to the public. Four inholding residents are located on Pythian Road past the park gate.

Impacts of the Proposed Action

Vehicles and equipment would access the project area using Pythian Road and the Panorama Trail, which would result in minor short-term impacts on public access to the park. Pythian Road would not be closed while the project is being implemented. Closures on Panorama Trail would be limited to 1 or 2 days. All areas of the park where work would occur would be temporarily closed to the public. The public access points near or adjacent to the project area would be temporarily closed while the Proposed Action is being implemented.

The Proposed Action would benefit public services in the long term by reducing the impact caused by future natural disasters from flooding and debris flows, which would result in less of a demand on emergency operations and response.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on public services and recreation would be the same as the impacts evaluated in the PEA. The PEA describes potential short-term impacts on site access and emergency response from a variety of activities that may include planting as a component of project implementation; however, the PEA does not directly address the effects of a revegetation project on emergency services.

3.9 Transportation

Existing Conditions

The project area is accessed via Pythian Road (a local street) maintained by Sonoma County. Pythian Road connects with Sonoma Highway (California State Route 12), which is a 2-lane arterial maintained by the California Department of Transportation (Caltrans). Sonoma Highway has an average annual daily traffic rate of about 30,000 vehicles (Caltrans 2017). Although there is no direct transit service into the park, Sonoma County Transit serves locations on Sonoma Highway via its Route 30 Santa Rosa/Sonoma Valley with a stop at Pythian Road (Sonoma County Transit 2020). There are no pedestrian or bicycle facilities (e.g., sidewalks) on either Pythian Road or Sonoma Highway.

Impacts of the Proposed Action

No short- or long-term impacts on the regional transportation network of Sonoma County are anticipated, and the project activities are not expected to impact emergency response. Inholding residents would maintain access to their homes at all time but may experience brief delays (5 minutes or less) for work vehicles to pass each other.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on transportation would be the same as the impacts evaluated in the PEA. The PEA covers activities that cause the temporary rerouting of traffic along adjacent roadways during construction.

3.10 Noise

Existing Conditions

The project area is in a public park, which is considered a noise-sensitive land use similar to a residential area.

Impacts of the Proposed Action

The Proposed Action would cause minor short-term noise impacts from the operation of vehicles and equipment used to implement the Proposed Action. In the long term, the project is not expected to cause any noise impacts or be a new source of noise.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action would be the same as the impacts evaluated in the PEA. The PEA covers the use of construction equipment and associated work crews/personnel that were found to result in temporary noise increases.

3.11 Hazardous Materials and Wastes

Existing Conditions

Hazardous materials are any items or agents (biological, chemical, radiological, or physical) that have the potential to cause harm to humans, animals, or the environment either by itself or through interaction with other factors. There are no regulated sites in the project area subject to the Resource Conservation and Recovery Act Information Act; Comprehensive Environmental Response, Compensation, and Liability Act; Toxic Substances Control Act; Emergency Planning and Community Right-to-Know Act; or point sources of pollution regulated by the Clean Air Act or Clean Water Act.

Impacts of the Proposed Action

Implementation of the Proposed Action would require using motorized equipment and vehicles that could result in the accidental release of petroleum materials in the short term. No long-term impacts are anticipated.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on hazardous materials would be the same as the impacts evaluated in the PEA. The PEA requires that the Subrecipient follow local, State, and Federal regulations for the handling and disposal of hazardous materials.

3.12 Visual Resources

Existing Conditions

The scenic qualities of the landscape within the project area relate to the natural park setting along a ridgeline.

Impacts of the Proposed Action

The Proposed Action would cause negligible short-term impacts on visual resources; however, vehicles, equipment, and work crews would be present in the project area while the project is being implemented. Most of the work would be done by hand, but 1 to 2 days of tractor work is anticipated. In the long term, visual resources of the project area would be more consistent with the surrounding landscape. Revegetation and soil stabilization activities in the areas that were

bulldozed for fire breaks would be restored to a more natural appearance. The revegetation would reduce and prevent erosion from forming rills and eroded channels, reduce the formation of bare eroded slopes and debris flows, and restore native vegetation that was removed in 2017 for the creation of fire breaks.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on visual resources would be the same as the impacts evaluated in the PEA. The PEA actions include the presence of heavy equipment, work crews, and debris; temporary increases in construction-generated dust; and visual contrast caused by project implementation activities in natural settings that were found to result in short-term impacts on visual resources.

The PEA also covers the short- and long-term impacts of revegetation with natural vegetation on visual resources that are similar to the revegetation activities under the Proposed Action and finds that revegetation would have a beneficial effect.

3.13 Cumulative Impacts

No other projects are planned in or near the project area; therefore, no cumulative impacts are expected to occur with the implementation of the Proposed Action.

4 Best Management Practices, Minimization, and Mitigation Measures

The following minimization and avoidance measures include relevant measures from the PEA (Section 4) and measures developed for this SEA based on potential site-specific impacts applicable to the Proposed Action.

4.1 Geology, Geohazards, and Soils

The Subrecipient would implement the following BMPs to mitigate short-term impacts on soils from dust and erosion:

- Limit driving speeds to 10 miles per hour or less to minimize dust.
- Limit travel on the access road immediately after heavy rains and cancel project activities scheduled to occur during heavy rain events or potentially hazardous weather that could result in a debris flow.
- Install wattles in the 0.5-acre area that would be recontoured.
- Avoid the use of mechanized equipment on slopes or unstable soils to the extent feasible.

4.2 Air Quality

The Subrecipient would be responsible for reducing potential air quality impacts from project activities and employing minimization measures to limit fugitive dust and emissions. These measures would include:

- Water disturbed areas
- Siting of staging areas in locations that minimize fugitive dust
- Minimizing equipment and vehicle idling time and keeping engines maintained properly

4.3 Biological Resources

Because the project area is on undeveloped public parkland and provides potential habitat for native wildlife species, the following general wildlife avoidance and minimization measures would be implemented:

- Require personnel to maintain a 10 mile per hour speed limit on all unpaved roads to reduce wildlife being harmed via impact with vehicles.
- Dispose of trash and food into closed containers while the project is being implemented.
- Prevent the presence of pets or feeding of wildlife.
- Restrict the maintenance of all equipment to designated staging areas.
- Report any dead, injured, or entrapped special status species to the appropriate state or federal resource agency.
- Use existing access routes.
- Return staging areas to original conditions.

To minimize impacts associated with invasive species, the Subrecipient would confirm that any disruption of soils and existing vegetation would be stabilized or reseeded with a native seed mix or allowed to revegetate with native plants. The Subrecipient would implement the following measures to control the spread of invasive species in or from the site:

- Clean all equipment before bringing it on-site.
- Use only certified, weed-free erosion control and revegetation materials.

To minimize impact from the seed collection efforts, the Subrecipient would implement the following BMPs recommended by the U.S. Forest Service (U.S. Forest Service 2020):

- Seed collection should be conducted at a minimum of five collection sites at least 0.5 to 1.0 miles apart. Many collection sites may be needed for inbreeding plant species to adequately sample genetic variation among populations.
- Within-population genetic variability is sampled by collecting from several widely spaced or unrelated plant parents (30–50 or more plants is optimal).
- Collection should always be conducted in a manner that does not damage existing vegetation or other resources. Ideally, at least 50 percent of the seed crop at a given site is left intact to allow for natural recruitment and regeneration of the native population.
- Seed must be collected and stored in such a way as to ensure its viability.
- Field collection forms and geographic information system should be used to document collection area location, along with other important details such as collection dates and the number, distribution and health of parent plants.

4.4 Cultural Resources

Before initiating ground-disturbing activities within the APE, the Subrecipient would alert on-site personnel to the possibility of encountering prehistoric or historic period cultural materials. Personnel should be advised that upon the discovery of cultural deposits work in the immediate area of the find should cease and FEMA and Cal OES should be contacted immediately. FEMA and Cal OES would then identify appropriate next steps if any. Stipulation III.B of the 2019 Agreement outlines measures that would be followed if human remains are encountered during the Undertaking.

The Subrecipient would contact the FIGR THPO to monitor project activities while they are being implemented.

4.5 Public Services and Recreation

The Subrecipient would be responsible for notifying the public before implementation of the Proposed Action. The Subrecipient would promote the revegetation of the area via blog posts, social media, and printed signage in the park. All materials would acknowledge partners and funding sources. Vehicles that are needed to implement the project would only be allowed to park off of the access road in designated parking areas to limit impacts on hikers and inholding residents that use Pythian Road.

4.6 Noise

Project activities would comply with the *Sonoma County General Plan 2020 Noise Element* (Sonoma County 2012), as well as state and federal standards and guidelines. All noise-producing project equipment and vehicles using internal combustion engines would be equipped with properly operating mufflers and air inlet silencers, where appropriate, that meet or exceed original factory specifications.

4.7 Hazardous Materials and Wastes

The Subrecipient would implement environmental mitigation measures to limit the effects of any accidental release. These environmental mitigation measures could include inspecting of equipment for signs of fuel or fluid (e.g., hydraulic fluids) leaks; establishing areas for refueling with appropriate emergency cleanup gear for spills (spill containment and absorption materials); and immediately cleaning up leaks, drips, and other spills. The implementation of environmental mitigation measures would make hazardous material releases or accidents unlikely and would ensure that any accidental release would be finite, and localized.

5 Conclusion

Although the range of actions evaluated in the PEA does not include the revegetation activities that would occur under the Proposed Action, activities required to implement the actions described in the PEA are similar to the activities required to implement the Proposed Action. The PEA adequately describes the affected environment and the environmental consequences of the No Action Alternative for all resource areas and the effects of the Proposed Action are assessed in this SEA. FEMA, Cal OES, and the Subrecipient have not identified public controversy regarding implementation of the Proposed Action.

The Proposed Action would result in no new substantial impacts on the environment beyond those described in the PEA; it would not require mitigation beyond that described in this PEA; it would not have the potential for public controversy; and therefore would result in no significant impacts.

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Appendix A: ESA No Effect Determination Form

No Effect Determination Form for

FEMA-Funded Projects in California

Review for Compliance with Endangered Species Act (ESA) and

Magnuson-Stevens Fishery Conservation and Management Act (MSA)

Definitions:

Action Area: is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02).

Essential Fish Habitat (EFH): is defined as waters and substrate necessary to complete the life cycle of species managed under a federal Fishery Management Plan. There is no EFH in Nevada and Arizona, therefore, EFH in this form is only applicable to projects in California and Hawaii.

Federally listed species: In this form, this term includes species listed or proposed to be listed as threatened or endangered under the ESA. This term does not include Candidate species, which are not legally protected under the ESA.

Physical and Biological Features (PBFs): Per 81 FR 7414, the PBFs are essential features to the conservation of the species and may require special management considerations or protection. PBFs were previously known as Primary Constituent Elements (PCEs) and are defined in the Federal Register for each species Critical Habitat designation.

Reviewer's Name and Date of Review:

Sam Bankston July 2, 2019

Disaster (DR) Number and Public Assistance (PA) Project Worksheet (PW) # or Hazard Mitigation Grant Program (HMGP) Grant Application #. For other FEMA Programs, include the grant number.

DR-4344-CA; HMA-4344-0302-33R

Reference Number (letter code + numbers in PW, if applicable):

N/A

Project Name:

Stabilization and Re-vegetation of Hood Mountain

Subrecipient or Recipient:

Sonoma County, California

Location:

Project centroid coordinates: 38.463303, -122.566505

The site can be accessed via 1450 Pythian Road, Santa Rosa, CA 95409.

Description of Damage:

N/A

Description of Proposed Project:

The project would use native plants to stabilize areas of bare soil that were bulldozed for fire breaks as a direct result of successful suppression of the catastrophic Nuns wildfire of October 2017. The project will include minor alteration to soil with tractors. The tractors will move soils to more natural contours and move large, downed woody vegetation. Most work will be done by hand and include only minor alteration of surface soils to distribute slash, create micro-shade and micro-water catchment, and rake seed into the soil.

Repair of these large swaths of forest that were denuded of vegetation will benefit headwaters of both important and already-impaired waterways. Revegetating and stabilizing the bulldozer lines on the top of the mountain will prevent rainfall from mobilizing soil. It will also reduce the rainfall impact and facilitate absorption, reducing flood and potential debris flow. The area to be impacted and benefitted by the project includes 686 acres of the downstream Sonoma Creek watershed.

Based on the type of activities described in the scope of work (e.g., administrative, staff services, procurement of supplies or equipment, etc.), the proposed project would not result in any direct or indirect effects to any federally listed species, Critical Habitat, and EFH. Note: in this form, EFH only applies to California and Hawaii. Does this statement apply to the proposed project?

☐ **YES.** A No Effect determination applies to the proposed project, and no consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) is required under the ESA. **Please provide a summary of the No Effect determination in this cell.** Then stop here. Review concluded.

☒ **NO.** Continue to fill out this form.

Is the proposed project located in a developed area within an urban setting <u>and</u> it has no potential to adversely affect, directly or indirectly, any federally listed species, Critical Habitat, and EFH? Note: in this form, EFH only applies to California and Hawaii.

☐ **YES.** A No Effect determination applies to the proposed project, and no consultation with the USFWS and NMFS is required under the ESA. **Please provide a summary of the No Effect determination in this cell.** Then stop here. Review concluded.

☒ **NO.** Continue to fill out this form.

Was a site visit conducted by a qualified Biologist (if applicable)?

☒ **NO.**

☐ **YES.** If a site visit was conducted by a qualified Biologist, insert date.

For projects in California, check the Biological Resources Datasets that were reviewed:

☒ Information for Planning and Consultation (IPaC) report
☒ NMFS Species List tool
☒ California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) search within 10 miles of the Action Area
☒ Designated/Proposed Critical Habitat under the USFWS & NMFS within 10 miles of the Action Area
☒ Additional Data
- ☒ Northern Spotted Owl (NSOW) Database within 10 miles
- ☒ Essential Fish Habitat (EFH) viewer
- ☐ California Fish Passage Assessment (CalFish) Database
- ☒ California Native Plant Society (CNPS)
- ☐ CalFlora
- ☒ National Wetlands Inventory (NWI)
- ☐ National Hydrography Dataset (NHD)
- ☐ California Wildlife Habitat Relationships (CWHR)
- ☐ Other. If applicable, replace "Other" with name of source: NatureServe, eBird, AmphibiaWeb, etc.

List <u>all</u> the federally listed species identified in the biological resources datasets above. Provide common and scientific names.

- California red-legged frog (*Rana draytonii*)
- Delta smelt (*Hypomesus transpacificus*)
- Steelhead - Central California Coast (CCC) DPS (*Oncorhynchus mykiss*)
- Central California Coast Coho ESU (*Oncorhynchus kisutch*)
- California Coastal Chinook ESU (*Oncorhynchus tshawytscha*)
- Northern spotted owl (*Strix occidentalis caurina*)
- California freshwater shrimp (*Syncaris pacifica*)
- Burke's goldfields (*Lasthenia burkei*)
- Kenwood marsh checkerbloom (*Sidalcea oregana ssp. Valida*)
- Showy indian clover (*Trifolium amoenum*)
- Sonoma Alopecurus (*Alopecurus aequalis var. sonomensis*)

Of the species identified in the biological resources datasets, which federally listed species need further consideration?

None

Does Designated/Proposed Critical Habitat occur within 10 miles of the Action Area?

☐ **NO.**

☒ **YES.** If yes, list the Critical Habitat designations with direction and distance to the Action Area. If Critical Habitat overlaps with the Action Area, provide a brief description of where it is located within the Action Area and explain whether "Physical and Biological Features (PBFs)" of Critical Habitat for that species occur within the Action Area.

- Critical habitat does not overlap with the Action Area.
- Critical habitat for the following species is located within 10 miles of the Action Area:
    - California red-legged frog, approximately 3.5 miles southwest.
    - Northern spotted owl, approximately 1.7 miles east.

Is the Action Area within EFH? Note: in this form, EFH only applies to California and Hawaii.

☐ **NO.**

☒ **YES.** If yes, list the designated EFH.

- The project area is located along the boundary of the Russian River and San Pablo Bay watersheds which are designated as Essential Fish Habitat (EFH) for Coho Salmon and Chinook Salmon. However, the project is an upland area and no activities would take place in streams or wetlands.

For the proposed project, was coordination with a qualified Biologist conducted or was Technical Assistance with USFWS and/or NMFS staff completed?

☐ **NO.**

☒ **YES.** If yes, provide details and names.

- Yes, a qualified biologist from CDM Smith conducted a review of the project information and biological resources datasets and an evaluation of potential effects.

Why will the proposed project result in No Effects to any federally listed species, their suitable habitat, Critical Habitat, and/or EFH? Note: in this form, EFH only applies to California and Hawaii.

Suitable habitat is not present for any federally listed species within the project area. Two small freshwater ponds occurring approximately 1,130 feet south and 1,800 feet southeast of the project area provide potential habitat for the federally threatened California red-legged frog (CLRF); however, there are no known occurrences of the species within 4 miles of proposed construction areas based on a review of CNDDB records. Furthermore, the project area and vicinity is comprised of and bordered by arid upland habitat that would deter CRLF emigration from nearby pond habitats because of the risk of desiccation.

Because the project area is located on undeveloped public park lands and provides potential habitat for a multitude of native wildlife species, the following general wildlife avoidance and minimization measures are recommended:

- Requiring personnel maintain a 10-miles per hour speed limit on all unpaved roads to reduce wildlife being harmed via impact with vehicles.
- Requiring proper disposal of trash and food generated during project activities into closed containers.
- Preventing the presence of pets or feeding of wildlife.
- Restricting the maintenance of all equipment to designated staging areas.
- If the collection/felling of woody debris or other disturbance (e.g., tractor work) occurs during the migratory bird nesting season (approximately February 15 to August 15), a pre-construction nesting bird survey of trees or other suitable nesting habitat should be conducted. If an active bird nest is found, work should be delayed until the nest is no longer active, or other measures implemented in coordination with appropriate resource agencies.
- Prompt reporting of any dead, injured, or entrapped special status species to the appropriate state or federal resource agency.

Although the project area is mapped within EFH for Coho Salmon and Chinook Salmon, there is no suitable habitat for salmon in the proposed project area. There would be no in-water work and no modification of aquatic habitat. The proposed work is a relatively low-impact restoration project located on top of a ridgeline and would not have direct or indirect effects on EFH within nearby surface waters associated with the Sonoma Creek or Santa Rosa Creek watersheds.