U.S. Department of Homeland Security
FEMA, Region X
130 228th Street, SW
Bothell, WA 98021-8627

FINDING OF NO SIGNIFICANT IMPACT

Post Soda Fire Stabilization and Rehabilitation Project
Malheur County, Oregon
FMAG 5102-4-R, Hazard Mitigation Grant Program

The Oregon Parks and Recreation Department (OPRD) applied to the Federal Emergency Management Agency (FEMA) through the Oregon Office of Emergency Management (OEM) for a grant under FEMA's Hazard Mitigation Grant Program (HMGP) for a wildfire fuels reduction mitigation project. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Public Law 93-288, as amended, 42 U.S. Code § 5121-5207). Funds are made available by the HMGP – Fire Mitigation Assistance Grant Pilot Program for fires declared during the 2015 fire season.

The purpose of the proposed project is to reduce the risk of wildfires from spreading from or into public camping and recreation areas in the Succor Creek State Natural Area and to restore native plant communities that are more fire resistant. Stabilization and rehabilitation activities will include the application of herbicides to remove invasive species in grassland areas, removing invasive species by hand in rare plant habitat, reseeding native grasses by hand or ATV spreader, hand planting seeds or plant plugs of rare species in areas that contain rare plant habitat, and constructing a fence along the eastern boundary of the Natural Area to prevent free-range cattle from entering state lands to graze. The project area encompasses approximately 90 acres of land within the burn area of the Soda Fire.

The Proposed Action includes the following activities:

- Invasive species will be removed:
  - Up to 70 acres of grasslands will be treated with two applications of herbicides. Herbicides will be applied to previously burned slopes via all-terrain vehicle (ATV) or backpack sprayer, once in spring and once in late summer or fall. If necessary, hand weeding, and spot-spraying of herbicides will occur during the following two years, in spring and/or late summer/fall.
  - The preferred herbicide, imazapic, would be used on upland areas. The herbicides glyphosate and clethodim may also be used where those species resistant to imazapic are present. Imazapic and clethodim are not registered for use in aquatic areas. Only herbicides approved for use in aquatic areas will be used within 30 feet of riparian areas, surface waters, or wetlands.
  - Approximately 20 acres of ash/clay beds containing rare plant habitat and campgrounds near riparian vegetation will be hand raked to remove thatch and invasive species would be hand-pulled in early and late spring.

- A native grass seed mix will be applied from an ATV and rotary spreader. It is anticipated that the seed would be spread in a 15- to 30-foot wide swath depending on seed characteristics such as size and weight. A tractor with a no-till seed drill may be used where the terrain and access are suitable. Reseeding activities would most likely occur during fall or winter after successful application of herbicide.
- The native seed mix will be approved by the OPRD Botanist and Resource Specialist.
- Seeds or plant plugs of rare species will be hand planted in suitable areas. Plant plugs will likely be planted up to 8-inches deep and 4-inches wide.
- Fencing will be installed along up to 8 miles of the eastern park perimeter. The fence will be a four-strand, smooth-wire fence (as opposed to barbed wire), which will allow passage of wildlife species but exclude cattle. A fold-away fence will be constructed across watercourses and will preclude cattle from crossing the water but will allow high water to flow through and prevent buildup of debris and obstruction of waterflow.

Public Involvement

The draft EA was made available to interested parties through publication on the FEMA website at https://www.fema.gov/media-library/assets/documents/184908 and on the OPRD website at https://www.oregon.gov/OPRD/NATRES/pages/index.aspx. A notice of availability for the draft EA was published in the *Argus Observer* on December 5, 2019. The 30-day public comment period for the draft EA was from December 5, 2019 to January 3, 2019. No comments were received during the public comment period on the draft EA. Therefore, the draft EA is assumed to be final and no changes will be made to the EA.

Findings

FEMA prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321−4347 (2000), as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [C.F.R.] 30 §§ 1500−1508) and in accordance with FEMA Directive 108-1, *Environmental Planning and Historic Preservation Responsibilities and Program Requirements* and Instruction Manual 108-1-1, *Instruction on Implementation of the Environmental Planning and Historic Preservation Responsibilities and Program Requirements, dated 10/10/2018*. The EA analyzed the potential individual and cumulative environmental impacts from implementation of the Proposed Action and a No Action alternative.

The Proposed Action, as described in the EA, will not result in any significant adverse impacts on geology, soils, air quality, climate change, water quality, wetlands, floodplains, vegetation, fish and wildlife, threatened and endangered species, cultural resources, environmental justice, hazardous materials, and public health and safety. Additionally, the following resources will not be affected by the Proposed Action either because they do not exist in the project area or the alternatives will have no effect on the resources: farmland soils, wild and scenic rivers, visual quality and aesthetics, noise, land use and zoning, traffic, and public services and utilities.

During implementation of the Proposed Action, negligible to minor short-term impacts on soils, air quality, climate change, surface waters and water quality, wetlands, floodplains, vegetation, fish and wildlife, hazardous materials, and public health and safety are anticipated. With

implementation of conditions to avoid, minimize, and mitigate impacts as listed in Attachment A, none of these potential impacts will be significant. In the long-term, the Proposed Action will have beneficial effects on several resources from the reduced risk of wildfire damage. FEMA coordinated with the Oregon State Historic Preservation Office and federally recognized Indian tribes with interests in the area to identify potentially affected resources and appropriate measures to avoid and minimize potential impacts.

Conclusion

Based upon conditions and information contained in the HMGP grant application, the EA, and Attachment A of this Finding of No Significant Impact (FONSI), and in accordance with FEMA's Directive 108-1, *Environmental Planning and Historic Preservation Responsibilities and Program Requirements*; Executive Orders (EOs) addressing floodplains (EO 11988), wetlands (EO 11990), and environmental justice (EO 12898); the FEMA Instruction Manual 108-1-1; and the CEQ regulations in Title 40 Code of Federal Regulations, Chapter V for implementing NEPA; FEMA has determined that the Proposed Action will not have significant impacts on the quality of the natural and human environment. As a result of this FONSI, an environmental impact statement will not be prepared and the project, as described in the grant application, the EA, and the conditions in Attachment A may proceed.

Approval:

MARK G EBERLEIN Digitally signed by MARK G EBERLEIN
Date: 2020.01.17 08:26:13 -08'00'

Mark G. Eberlein — Date
Regional Environmental Officer, FEMA Region X

KRISTEN C MEYERS Digitally signed by KRISTEN C MEYERS
Date: 2020.01.17 09:27:57 -08'00'

Kristen Meyers — Date
Chief, Hazard Mitigation Assistance Branch, FEMA Region X

Attachment A, Project Conditions

OPRD shall implement the Proposed Action and comply with the following project conditions and mitigation measures:

- OPRD will obtain any necessary local, state, or federal permits needed to conduct the proposed work. At this time, no local, state, or federal permits appear to be necessary to implement this project.
- ATVs will not be used on steep slopes or within the wetted perimeter of surface waters. Running times will be minimized and engines will be properly maintained. ATVs will not be fueled or parked in or near any watercourses. Equipment will be kept clean to minimize the spread of invasive plant species.
- OPRD will follow herbicide application guidelines for spray drift avoidance as stipulated in *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States* (Bureau of Land Management 2005). The following herbicide BMPs from these guidelines will be applied:
    - All herbicide applications will occur consistent with label recommendations and will be applied by trained applicators using equipment that is calibrated on an annual basis.
    - Herbicides will not be applied when the wind speed exceeds 10 miles per hour to minimize potential for drift.
    - Herbicides will not be applied if rain is projected within 24 hours.
    - Herbicides will not be applied within 30 feet of wetlands, streams, riparian areas or other sensitive habitats unless noxious weeds are present in those areas. In the case of noxious weeds within wetlands, streams, riparian areas, or other sensitive habitats, only herbicides that are approved for aquatic use will be applied.
- No aerial spraying of herbicides will occur. Herbicide applications will be from all-terrain vehicles (ATVs) or backpacks only.
- A notice warning of herbicide use will be posted in application areas.
- Fence construction will not occur below the ordinary high-water mark; fence posts will span water courses. No post holes will be dug; instead, metal fence posts will be hammered into the ground where feasible and rock gabion posts would be used to stabilize the fence at necessary intervals.
- No fill will be placed in wetlands.
- No work will occur within 20 meters of cultural resources sites recommended as eligible or unevaluated.
- At the cultural resources site that contains two cairns and is recommended as eligible for listing in the National Register of Historic Places in the fence portion of the project area, a 20-meter buffer will be implemented around each cairn and the fence will be routed between the pair of cairns.

Final Environmental Assessment

Succor Creek – Post Soda Fire Stabilization and Rehabilitation Project

5102-4-R FMAG OR

Malheur County, Oregon

January 2020

FEMA

Federal Emergency Management Agency
Region X
Department of Homeland Security
130 – 228th Street SW
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This document was prepared by

Contract No.: HSFE60-15-D-0015

Task Order: 70FA6018F0000003

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Acronyms and Abbreviations

ACS	American Community Survey
ATV	all-terrain vehicle
BLM	Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act of 1970
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DHS	Department of Homeland Security
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHG	greenhouse gases
HMGP	Hazard Mitigation Grant Program
IPaC	Information Planning and Consultation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory

OCCRI	Oregon Climate Change Research Institute
ODEQ	Oregon Department of Environmental Quality
OEM	Oregon Office of Emergency Management
OHV	Off-highway vehicle
ORBIC	Oregon Biodiversity Information Center
OPRD	Oregon Parks and Recreation Department
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

Glossary

Endemic – A plant or animal that is native or restricted to a certain country or area.

Montmorillonite – A type of clay that can form as volcanic ash and glass weathers and erodes. It expands to absorb many times its weight in water and has a sticky, popcorn-like texture when dry. This clay is erosion-resistant and can sustain rare plant species.

Rhyolite Lava – A highly viscous, silica-rich molten rock that can erupt from continental volcanoes. Rhyolites are often erupted in association with pumice, obsidian, or volcanic tuffs (see below).

Tuff – A type of rock composed of volcanic ash, glass, and pumice pieces that are less than 2mm across ejected during an eruption. These components are consolidated into a rock by heat and pressure after deposition.

SECTION 1 Introduction

The Oregon Parks and Recreation Department (OPRD) proposes to implement hazardous fuels reduction activities within the Succor Creek State Natural Area in Malheur County, Oregon to reduce wildfire hazards. OPRD submitted an application to the Federal Emergency Management Agency (FEMA) through the Oregon Office of Emergency Management (OEM) for a grant under FEMA's Hazard Mitigation Grant Program (HMGP). OEM is the direct recipient for the grant, and OPRD is the subrecipient.

The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Under the HMGP, federal funds pay 75 percent of the project cost, and the remaining 25 percent comes from nonfederal funding sources. The HGMP funds for this grant were made potentially available via Fire Mitigation Assistance Grant (FMAG) declarations made by FEMA in 2015 for programs that reduce the increased risk of future wildfires following a large wildfire.

The Succor Creek Natural Area is a 2,200-acre remote and primitive outdoor recreational area located approximately 30 miles south of Adrian, Oregon in Malheur County (**Figure 1.1**). The park contains 8 primitive tent camping sites on the west side of Succor Creek and 15 primitive tent camping sites on the east side of the creek; there are no electrical hookups for RVs or campers. A foot-bridge crosses Succor Creek and there is one concrete vault toilet but no potable water. The campground is open year-round and includes a picnic table. Day use at the park includes hiking, geode collecting, hunting, and off-road vehicle usage (OPRD 2003). Usage statistics such as numbers of overnight or day-use are not collected by OPRD because the park is not staffed, and no fees are collected.

The project would be conducted on approximately 90 acres of land along the park boundary and in sagebrush steppe and grassland areas that contain pockets of high-quality rare plant habitat. The proposed action would involve hazardous fuels mitigation measures to reduce the potential for a wildfire to spread through public areas used for recreation and camping. The project may also reduce the potential for a fire originating in the areas of high human activity (often a source of ignition) to spread outward into the Natural Area thereby providing protection for rare plant communities, which occur on exposed patches of volcanic ash/clay bed soils and support several state-listed plant species.

The hazard mitigation measures would include removing non-native vegetation from rare plant habitats with hand tools and applying herbicides in surrounding grassland areas to reduce existing invasive grass species, which burn more readily than native species. Native grass species would be seeded by hand or ATV spreader in areas where invasive grass species are treated. Treatment areas were selected to connect to Succor Creek and the natural rock cliffs, which provide natural fire breaks, and to surround areas of human activity.

The proposed action would reduce wildfire hazards by reducing the rate at which fires spread and shortening the fire season, which is lengthened by the invasive grasses that mature earlier and produce more dead, dry vegetation. The proposed action also includes the construction of a perimeter fence along the eastern boundary of the Natural Area to prevent free-range cattle from entering the state lands. Cattle grazing encourages the spread of non-native, invasive grass

species. Open-range cattle preferentially graze on perennial, native grasses, trample existing plants, and cause soil compaction, which prevents establishment of perennial grasses. The fencing would be tied into Succor Creek, which provides a natural fire break against the spread of fires to the west.

This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); DHS Instruction 023-01; and FEMA's Directive 108-1, NEPA implementing procedures. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this Final EA is to analyze the potential environmental impacts of the proposed OPRD Post Soda Fire Stabilization and Rehabilitation project. FEMA will use the findings in this Final EA to determine whether to prepare an environmental impact statement or a finding of no significant impact (FONSI).

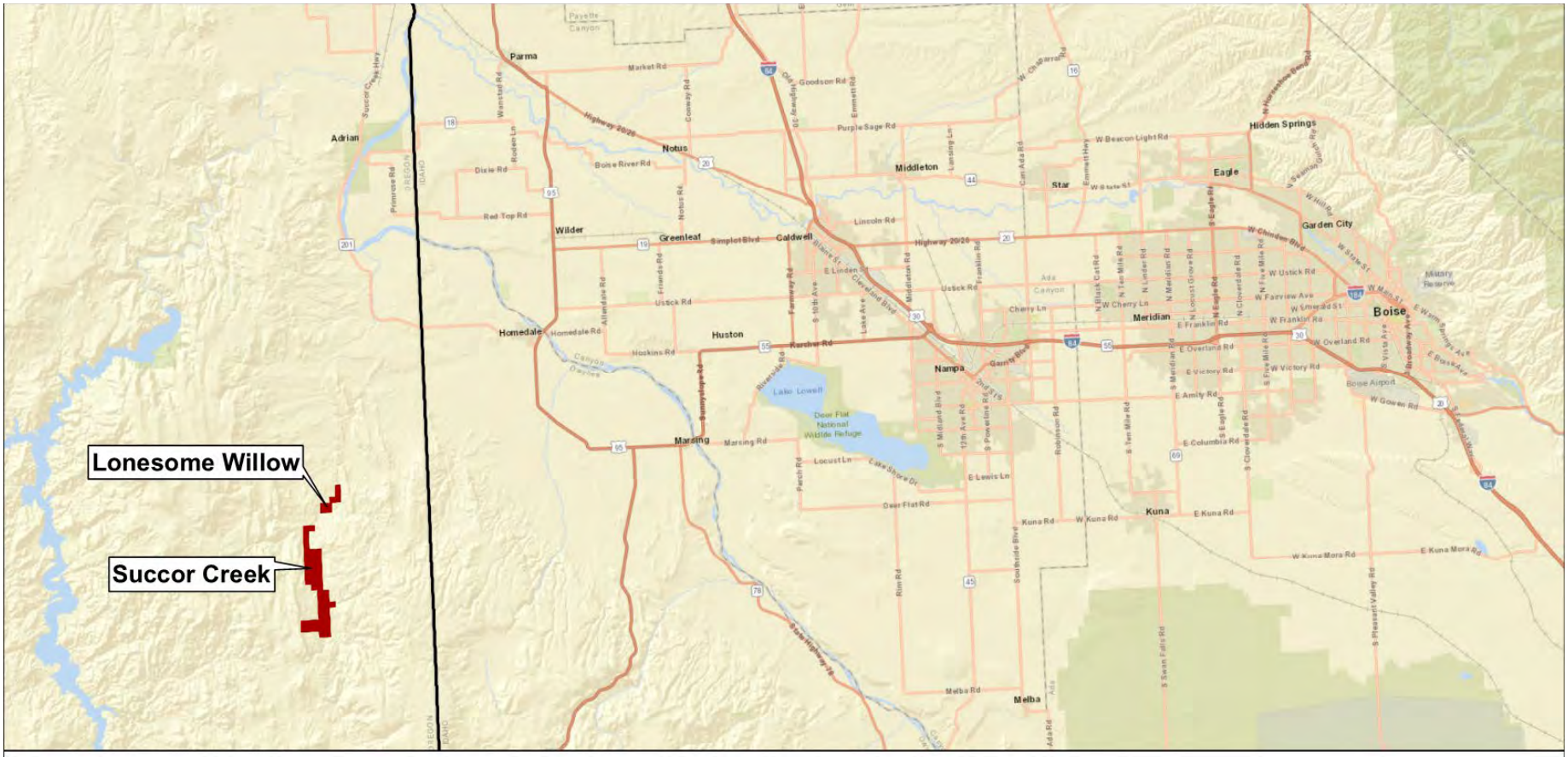

Figure 1.1. Project Vicinity

SECTION 2 Purpose and Need

FEMA's HMGP provides funds to eligible state and local governments, federally-recognized tribal governments, and non-profit organizations to help implement long-term hazard mitigation measures after a Presidential major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable risk mitigation measures to be implemented during the recovery from a declared disaster.

The purpose of the project is to reduce the risk of wildfires from spreading from or into public camping and recreation areas in the Succor Creek State Natural Area and to restore native plant communities that are more fire resistant. The need for this action is detailed below.

Risk of wildfire to communities in the Northern Basin and Range region is considered to be high because they are surrounded by fast-burning vegetation that is difficult to manage once a wildfire begins to spread. Many communities in this region have no structural fire protection and agencies have extended response times because of the large distances involved and limited infrastructure. The proposed actions would mitigate wildfire hazards by reducing fuel loads and re-introducing fire-resilient, native grass species.

The Soda Fire began with a lightning strike on August 10, 2015 and burned 280,000 acres in southwest Idaho and southeast Oregon. Of the total acres burned, approximately 692 acres east of Succor Creek were burned within Succor Creek Natural Area **(Figure 2.1)**. Much of the burned area was dominated by annual invasive grass species such as cheatgrass and medusahead rye. These species outcompete the native bunchgrass species. The annual invasive species mature as much as two months earlier than native bunchgrasses resulting in a longer fire season. These annual grasses also allow wildfires to burn faster and hotter than native species and are more difficult to suppress.

The Malheur County Community Wildfire Protection Plan identifies buildup of flashy fuels (i.e. invasive annual grasses) as a major wildfire risk. This, coupled with steep topography that increases rate of spread and dispersed recreational use in which park users may ignite fires, makes the Succor Creek Natural Area an area of high risk for wildfire start and rapid spread to adjacent and similarly flammable disturbed rangeland.

Cheatgrass and other annual grasses are naturally more prone to burning than native plant species such as bunchgrasses and sagebrush. Although wildfires are sometimes rapidly suppressed in these fuels, their very dense, fine textured nature increases both the chance of ignition and the rate of spread of wildfires. During years when the production of annual grasses is high, resistance to control is extreme, and it can be very dangerous to try and suppress wildfires in this fuel type. Native perennial grasses do not mature until late August and September, whereas cheatgrass matures in June. The dominance of cheatgrass thus not only changes the type of fire that occurs, but also extends the fire season by almost two months.

Currently Succor Creek Natural Area has a campground and a day use area that is also used for camping. Although the facilities are limited, the area is used by rock hounds, birdwatchers, upland game bird and big game hunters, off highway vehicle (OHV) users, hikers, picnickers, and, on occasion, Boy Scout troops or other large user groups. These users are likely sources of

ignition for a wildfire, particularly when located at the campground. Fires that start in this area could quickly spread to surrounding rangelands that are contiguous to wildland-urban interfaces southwest of Boise. Succor Creek is the only natural fire line to help stop the spread of fires between Lake Owyhee and Nampa.

Figure 2.1. Sagebrush Burned in Soda Fire

The spread of the invasive species is also facilitated by wildfires, thus setting up a self-perpetuating positive feedback loop (invasive grasses are more likely to burn, and wildfires are more likely to result in the establishment and spread of invasive species; **Figure 2.2**).

Much of the land surrounding the project area is managed by the Bureau of Land Management (BLM), which leases the land for open-range cattle grazing. Cattle grazing facilitates the spread of invasive cheatgrass and medusahead by spreading seed, creating disturbed soils, and preferential grazing of native grasses. Cattle also trample perennial grasses, preventing them from becoming established in areas disturbed by fire. Landowners who do not wish to have free-range cattle on their land are responsible for constructing and maintaining fences rather than the holders of the grazing leases being responsible for fences.

Figure 2.2. Succor Creek Natural Area Vegetation Dominated by Annual Invasive Grass Species

SECTION 3 Alternatives

This section describes the No Action Alternative, the proposed action, and alternatives that were considered but dismissed.

3.1 No Action Alternative

The No Action Alternative is included to describe potential conditions in the future if no action is taken to mitigation wildfire hazards. Under this alternative, the Post Soda Fire Stabilization and Rehabilitation Project would not be implemented in the Succor Creek Natural Area. Existing conditions of high fire risk from dominant invasive vegetation cover and open-range cattle grazing would continue. The spread of invasive species would continue in the Succor Creek Natural Area and the ability of the creek and natural cliffs to provide a firebreak would remain compromised. Because current wildfire hazards would not be reduced and the vegetation would not be restored to more fire resilient communities under the No Action Alternative, the probability of loss of life and property in a wildfire would continue to be high.

3.2 Alternative 2 – Proposed Action

Oregon Parks and Recreation propose to implement a hazardous fuels reduction project consisting of application of herbicides, seeding and establishment of native grasses, and installation of fence along the eastern park boundary of Succor Creek Natural Area. **Figures 3.1** through **3.4** show the proposed area of herbicide treatment and native grass seeding in the areas of Succor Creek Natural Area burned during the Soda Fire. The treatment area would comprise approximately 90 acres, including 20 acres of ash/clay beds containing rare plant habitat and campgrounds near riparian vegetation. The treatment areas exclude cliffs. Very steep slopes that cattle have difficulty accessing tend to support populations of native plant species and would generally not require treatment. Cliffs and existing stands of native species that would be excluded from treatment are not shown on the figures and would be identified and avoided in the field.

The proposed project would take advantage of post-fire conditions (open soil/low thatch) to kill invasive, annual grasses and re-seed with native grasses. Replacement of the invasive grass species with native species would return the fire season to its earlier duration and create a fire break that would reduce the ability of fires to spread from or into campgrounds and other public use areas.

Two applications of herbicide would be applied to remove invasive grasses from previously-burned slopes within the treatment areas. Herbicide would be applied either by all-terrain vehicle (ATV) or backpack sprayer, once in the spring, followed by once in late summer or fall. If necessary, based on monitoring, hand weeding and spot-spraying of herbicide application would occur the following two years, in the spring and/or late summer/fall. The preferred herbicide Plateau™ (active ingredient imazapic) plus surfactant Grounded™ would be used on upland areas. However, because some treatment areas contain invasive species that are resistant to imazapic, the herbicides glyphosate and clethodim may also be used where those species are present. These herbicides were selected for their effectiveness against non-native annual species including cheatgrass and medusahead. Imazapic and clethodim are not registered for use in

aquatic areas; therefore, they would not be used within 25 feet of surface waters in streams and wetlands (BLM 2005). OPRD would follow BLM guidelines (2005) for herbicide application as well as all label restrictions. Only herbicides approved for aquatic use would be applied within 25 feet of sensitive habitats including riparian areas (i.e., stream terrace, banks, beds, and streamside sandy bluffs). If there are invasive plants in the riparian areas along Succor Creek, Trimbly Creek, or within 25 feet of the wetlands associated with Succor and Trimbly Creeks, an herbicide approved for aquatic use would be applied in these areas; although, the project would not involve the control of aquatic plants or the use of herbicides directly into surface waters. There would be no aerial spraying of herbicides to avoid potential negative impacts on sensitive habitats.

OPRD would follow BLM guidelines (2005) for spray drift avoidance, including specifications for spray droplet size, adjuvants, and wind-speed restrictions.

- All herbicide applications would occur consistent with label recommendations and would be applied by trained applicators using equipment that is calibrated on an annual basis.
- Herbicides would not be applied when the wind speed exceeds 10 miles per hour to minimize potential for drift.
- Herbicide would not be applied if rain is projected within 24 hours.
- Herbicides would not be applied within 25 feet of wetlands, streams, and riparian areas unless noxious weeds are present in those areas. In the case of noxious weeds within wetlands, streams, or riparian areas only herbicides that are approved for aquatic use would be applied.

Herbicide-treated areas would be seeded with native grass species from an ATV and rotary spreader. It is anticipated that the seed would be spread in a 15- to 30-foot wide swath depending on seed characteristics such as size and weight. If cost and availability allow, a tractor with a no-till seed drill may be used for seeding activities where the terrain and access are suitable. Seed mixes would be determined by the OPRD Botanist and Resource Specialist to maximize cover and diversity, though they may be influenced by availability. Native species being employed in other similar areas by BLM after the Soda Fire include: bluebunch wheatgrass (*Pseudoroegneria spicata*), streambank wheatgrass (*Elymus lanceolatus*), thickspike wheatgrass (*Elymus lanceolatus*), big bluegrass (*Poa ampla*), Idaho fescue (*Festuca idahoensis*), Siberian wheatgrass (*Agropyron fragile*), Snake River wheatgrass (*Elymus wawawaiensis*), Sandberg's bluegrass (*Poa secunda*), and bottlebrush squirreltail (*Elymus elymoides*). The final seed mix would be selected for maximum coverage and diversity prior to seeding. Seeding would most likely occur during fall winter after successful application of herbicide.

The ash/clay beds that contain rare plant habitat would be hand raked to remove thatch, and invasive species would be hand-pulled in early and late spring. Removal of the invasive non-native grasses from the ash/clay beds would prevent the rare native species from being out-competed for space and allow them to persist in place. Seeds or plant plugs of the rare species would be hand planted in suitable areas to help augment current rare plant populations. It is anticipated that plant plugs would be up to 8-inches deep and 4-inches wide.

Up to eight miles of fencing would be installed along the eastern perimeter (**Figure 3.1**) of the park to prevent open-range cattle from entering the park. Reducing cattle use of the Natural Area would reduce soil compaction and preferential grazing on or trampling of newly seeded native grasses. The fence would be a four-strand, smooth-wire fence (as opposed to barbed wire) that would allow passage of wildlife species but exclude cattle. A fold-away fence would be constructed across watercourses that would preclude cattle from crossing the water but would allow high water to flow through and prevent buildup of debris and obstruction of waterflow.

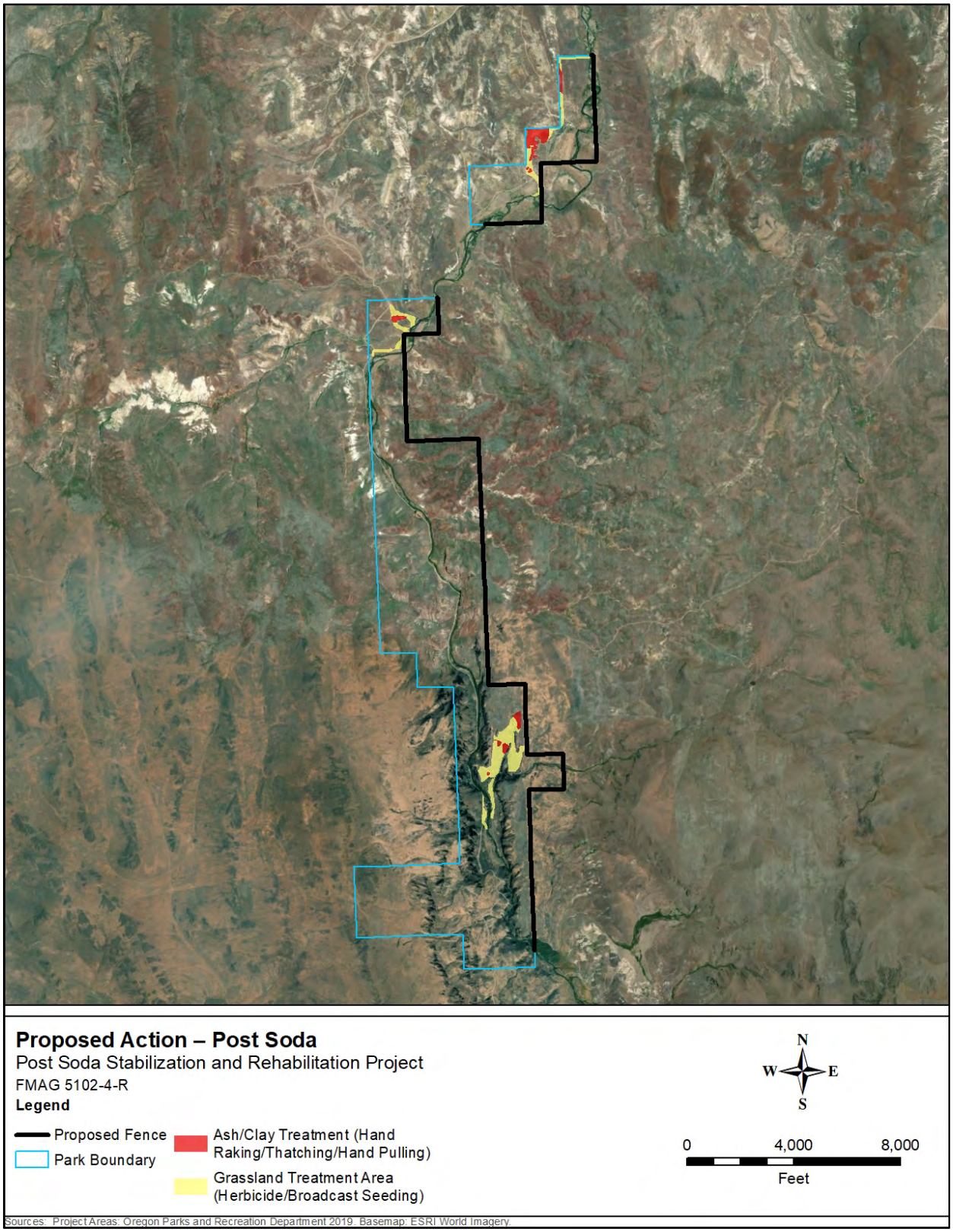

Figure 3.1. Proposed Action – Vegetation Treatment Areas and Fencing

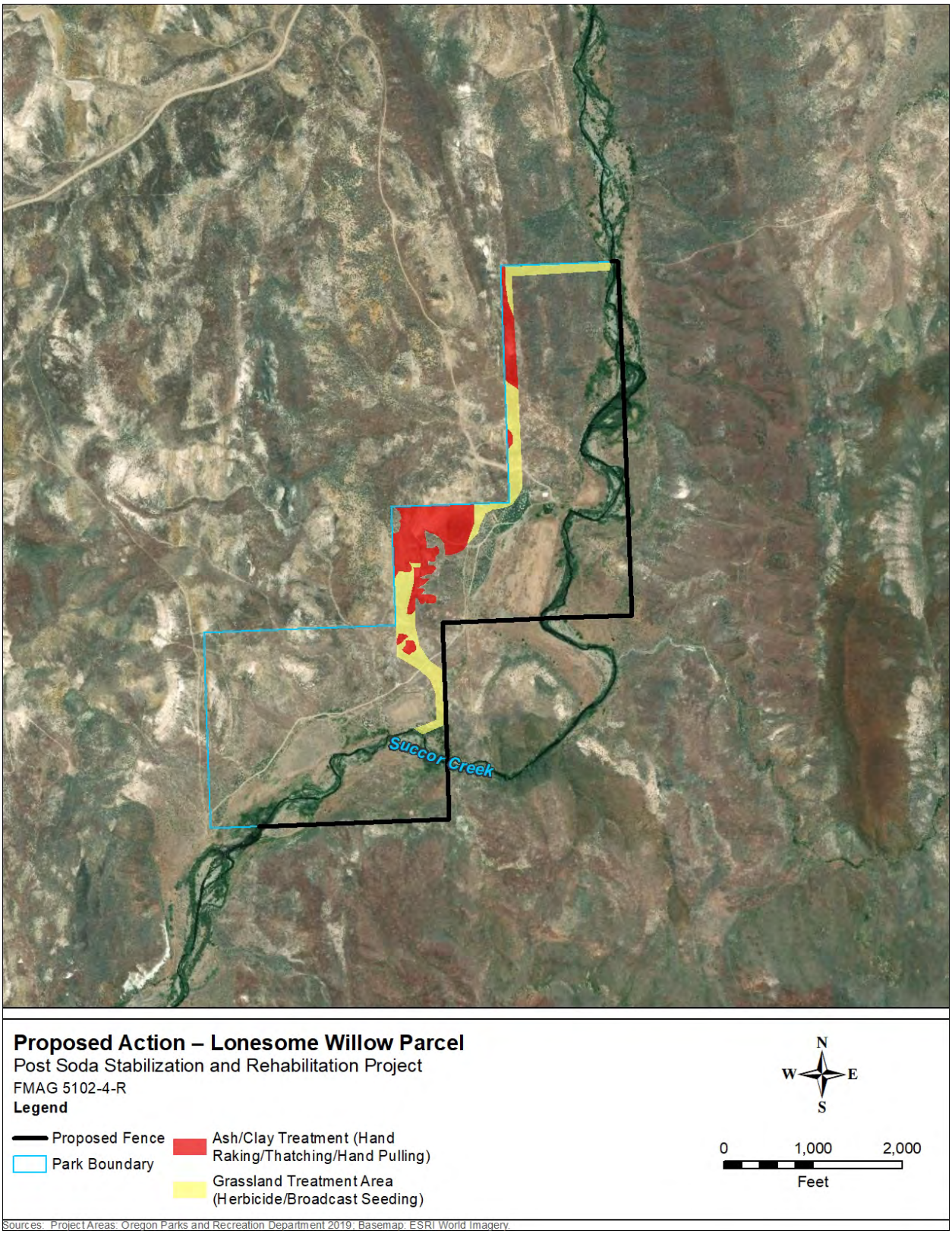

Figure 3.2. Proposed Action – Lonesome Willow Parcel

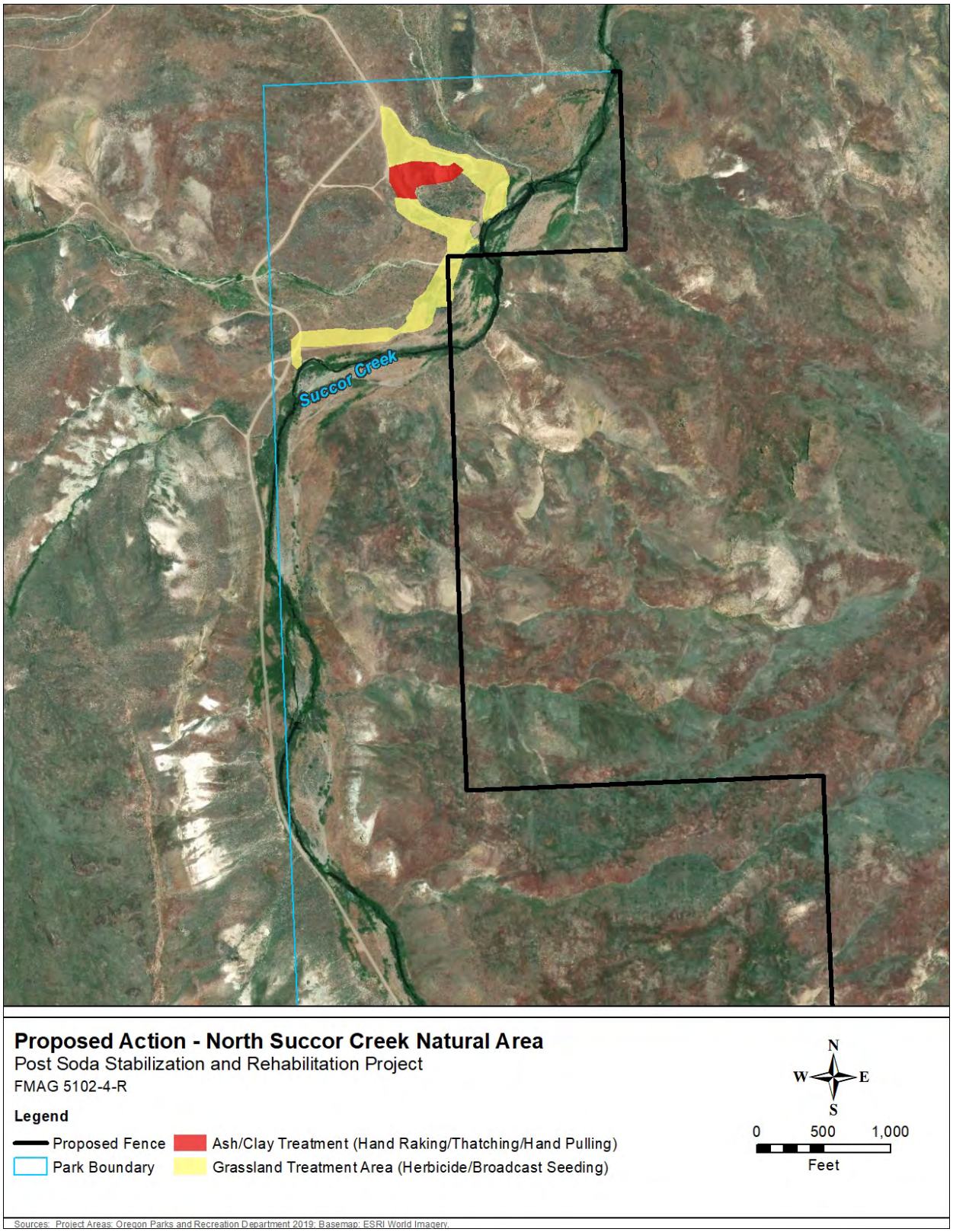

Figure 3.3. Proposed Action - North Succor Creek Natural Area

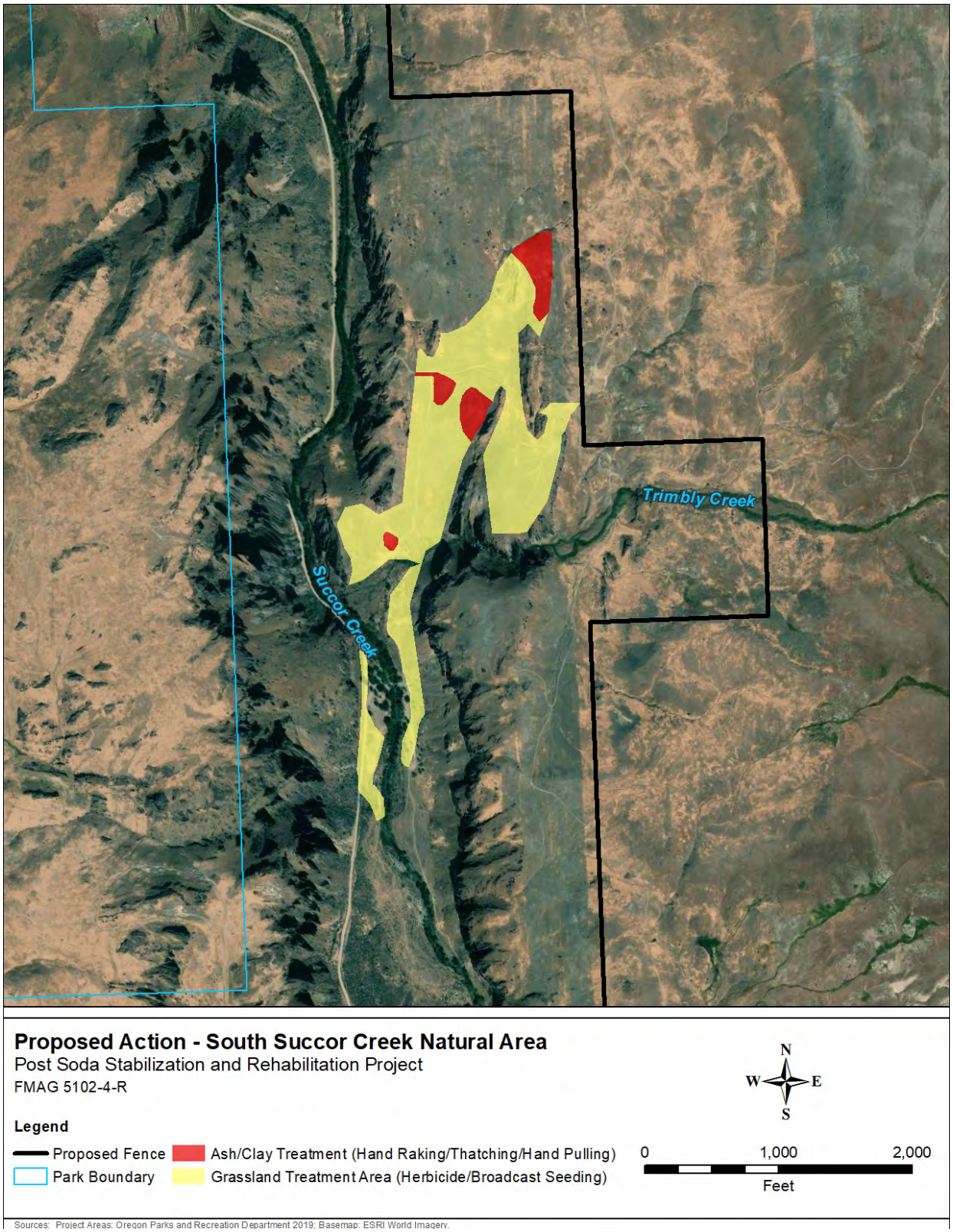

Figure 3.4. Proposed Action - South Succor Creek Natural Area

Fence posts would be metal and pounded into the ground rather than secured with post holes. Some fence posts would be supported with rock gabions (**Figure 3.5)**. These would be placed at intervals as needed to strengthen and stabilize the fence. There are gabions already in use as fence supports in the project area. Materials used to construct the fence would be delivered to the project area via existing dirt and gravel roads. Much of the fencing would be installed on rugged terrain, requiring that many of the supplies would need to be brought to work areas via ATVs.

Figure 3.5. Rock Gabion Supported Fence

3.3 Alternatives Considered and Dismissed From Further Consideration

3.3.1 Aerial Seeding

Under this alternative, herbicides would not be applied, and fencing would not be installed. Areas affected by the 2015 Soda Fire would be seeded with native grasses. Without preparation of the seeded areas with herbicide application, establishment rates of native seeds would be lower due to competition with invasive grasses for early-season water and nutrients. Open-range cattle would still be free to graze the freshly seeded project area without the installation of fences. Cattle preferentially graze on early-growth, native species, trampling seedlings, and compacting the soil, all of which reduces the ability of native species to get established in disturbed areas.

Seeding without herbicide application or fence installation would likely still have some benefit. Soil erosion would be reduced, habitat value increased, and risk of future wildfire hazards reduced. Some of the fast-burning fuels, which allow wildfire to spread quickly once ignited, would be decreased, and there would be some increased fire-resiliency as some native grasses would still be expected to become established. However, the seeding would be much less successful, so the benefits would be much smaller in this alternative relative to the proposed project.

3.3.2 Campground Improvements

Under this alternative, herbicides would not be applied, the area would not be seeded with native grasses, and no fences would be installed to prevent cattle from consuming native grasses. Fire circles would be built in each of the 23 campsites in the recreational area in order to prevent fires built by overnight users from sparking wildfires. This alternative would not prevent wildfires started by non-human means (e.g. lightning strikes) from spreading and because the fast-burning fuels would not be removed and replaced with slower-burning native grasses, this alternative would not serve the purpose and need; therefore, this alternative is not discussed further.

3.3.3 Fire Breaks

Under this alternative, no herbicides would be applied, the area would not be seeded with native grasses, and no fence would be installed. Instead a firebreak would be built around the perimeter of Succor Creek Natural Area or around the campground area. This firebreak would serve two purposes: 1) it would prevent wildfires that were started in the park from spreading beyond park boundaries, and 2) it would prevent wildfires begun outside of the park from entering the park and potentially destroying park infrastructure. A firebreak constructed around the campground area might protect park infrastructure but would not provide protection for sensitive plant communities nor would it alter the character of the existing non-native plant communities that promote fire spread.

A firebreak along the park perimeter or around the campground would create additional environmental concerns. To build a firebreak, heavy equipment would be required. Use of heavy equipment would cause soil disturbance and erosion. Removal of vegetation would also negatively impact the visual aesthetics inside the natural area. A firebreak would also require annual maintenance, which may be difficult in this remote area. Building a firebreak would not serve the purpose and need; therefore, this alternative is not considered further.

SECTION 4 Affected Environment, Potential Impacts, and Mitigation

This section describes the environment potentially affected by the alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts. When possible, quantitative information is provided to establish potential impacts, and the potential impacts are evaluated qualitatively based on the criteria listed in **Table 4.1**. The "study area" includes the footprint of the area to be treated, the proposed fence line and a 30-foot area on either side of the boundary, and access and staging areas needed for both action alternatives under consideration.

Table 4.1. Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes or benefits would be either non-detectable or, if detected, would have effects 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 effects.
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 effects.
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 effects would be required to reduce impacts, though long-term changes to the resource would be expected.

4.1 Resources Not Affected and Not Considered Further

The following resources would not be affected by either the no action alternative or the proposed action because they do not exist in the project area or the alternatives would have no effect on the resource. These resources have been removed from further consideration in this EA.

Table 4.2. Resources Eliminated from Further Consideration

Resource Topic	Reason for Elimination
Farmland Soils	Prime and unique farmlands are protected under the Farmland Protection Policy Act (FPPA) (Public Law [P.L.] 97-98, 7 United States Code [U.S.C.] 4201 et seq.). The FPPA applies to prime and unique farmlands and those that are of state and local importance. The soils present within the project area are not considered prime or unique farmland soils per the Natural Resource Conservation Service's (NRCS) Web Soil Survey. Therefore, there would be no effect on farmland soils.

Resource Topic	Reason for Elimination
Wild and Scenic Rivers	The National Wild and Scenic Rivers System (P.L. 90-542; 16 U.S.C. 1271 et seq.) was created in 1968 to preserve rivers with outstanding natural, cultural, and recreational value in a free-flowing condition. The closest designated wild and scenic river to the project area is the Owyhee River, approximately 20 miles away (National Wild and Scenic Rivers System 2016). The alternatives would have no effect on wild and scenic rivers.
Visual Quality and Aesthetics	Although the Succor Creek Natural Area is noted for providing dramatic views of steep canyon walls rising from the creek, none of the alternatives would alter the topography that creates these views. Vegetation alterations either in response to a wildfire under the no action alternative or as a result of the proposed action would not change the visual context because the Natural Area would remain vegetated with sage and grasses. Therefore, there would be no effect on visual quality or aesthetics under either alternative.
Noise	Assessment of noise impacts includes the consideration of the proximity of the proposed action to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Sensitive receptors include residences, schools, churches, hospitals, and libraries. The project area does not include any sensitive receptors. Therefore, there would be no noise related effects from either alternative.
Land Use and Zoning	The proposed project area is a state park. Neither alternative would change the land use or the zoning; therefore, there would be no effect on land use and zoning.
Traffic	The project area is served by two gravel roads in and out of the Natural Area and most of the work would occur off-road. Because the number of workers required would be small, most of the work would be conducted off-road, the public access roads are rural and lightly traveled, and no road closures or detours would be required, there would be no impacts on traffic conditions in the project area.
Public Services and Utilities	Because the work would be conducted within a state natural area that does not contain any public services or utilities, there would be no effect from any of the alternatives. There could be a beneficial effect on off-site services and utilities if the proposed action results in a reduction of wildfire hazards.

4.2 Geology and Soils

The major geologic features comprising the Succor Creek Natural Area are volcanic cliffs and colorful ash beds deposited during late-Miocene eruptions that formed the well-known Columbia River Flood Basalts (OPRD 2003). During these eruptions, which occurred over the course of approximately 11.2 million years (Camp et al. 2017), several types of volcanic material were deposited in the Succor Creek area. These deposits include chalk-like ashes in hues ranging from gray to pale green to white and rhyolite lava flows. Intense volcanic heat caused some of the ash deposits to cool and harden into tuff layers which are interspersed with glassy rhyolitic flows.

Succor Creek gorge was created as the perennial creek eroded through layers of rhyolite, welded tuff, and ash layers. The topography is rugged, steep, and narrow where the creek cut through dense rhyolites, and it is wide and rolling where softer ashes and clays eroded more readily. Elevation in the project area ranges from 2,600 feet to 4,600 feet above sea level and the cliffs rise up to 600 feet from the bottom of the canyon (OPRD 2003). Away from the creek, the

topography varies from gentle rolling hills to sharp escarpments and steep outcroppings of rock (**Figure 2.1 and Figure 2.2**).

There is minimal detailed information on soils in Malheur County because soil surveys have not been completed south of the Malheur River (OPRD 2003). Soils in the region are typically young and poorly developed because the chemical and physical soil-building processes (rock weathering, plant decomposition, accumulation of organic matter, and nutrient cycling) progress slowly in this semiarid climate (OPRD 2003).

The clay soils in Succor Creek Natural Area are mostly composed of montmorillonite, which feels greasy and slick when wet but is puffy (like popcorn) when dry. The clays were formed by the decomposition of volcanic ash and pumice layers (Kittleman 1973). These clays are not altered by water (they do not erode easily) and they support endemic and rare plant species.

Volcanic rocks in this area are silica-rich, which, when broken down and carried in groundwaters, form geodes. Geode collecting is a popular activity in Succor Creek. Mining has also occurred near the project area in the past.

No Action

Under the No Action Alternative, there would be no impacts on geology. In the absence of a major wildfire near the project area, the no action alternative would have no effect on soils because no project-related disturbances would occur.

However, a major wildfire would be more likely under the no action alternative, and soils within the burnt area could be adversely affected. A hot and long-burning wildfire could alter the cycling of nutrients; the physical and chemical properties of soils; and the temperature, moisture, and biotic characteristics of the existing soils. In the event of a major wildfire, more bedrock could be exposed to direct rainfall, which would increase the rate of erosion of the formation. These primary impacts from a wildfire can also result in decreased infiltration and increased runoff, which often causes increased erosion. In the Succor Creek Natural Area, soil development processes are slow because of the semiarid climate and could require a long time for these soils to regenerate. However, the invasive and native grasses present in the project area are likely to burn hot but fast, without the sustained duration of high temperatures required to negatively affect the type of clay soils present in the project area (USDS 2005). Therefore, the likelihood of major impacts to soils from a wildfire are negligible.

Proposed Action

The proposed action would not result in measurable disturbance of either geology or soils. The proposed activities would not result in any soil and sediment removal or transport from the site by stormwater runoff; therefore, new bedrock would not be exposed to the surface.

Herbicide application and seeding would result in negligible soil disturbance. ATVs would not be used on steep slopes; therefore, proposed ATV use would not result in erosion of soils. Herbicide and seed application in steeper areas that require treatment would be accessed on foot and treated with backpack sprayers and hand broadcast seeding. Very steep slopes with existing

stands of native plants would also be excluded from the project and would not be exposed to potential soil erosion.

The proposed herbicides would not be expected to adversely impact soils as the preferred herbicide, imazapic, has low sediment absorption properties. Additionally, glyphosate adsorbs tightly to soil particles, so it is unlikely to leach into nearby soils, and clethodim degrades quickly in aerobic microbial conditions (National Pesticide Information Center [NPIC] 2019, EPA 1992). Herbicides would be applied to the minimum area for effective treatment of invasive species. As the non-native annual grasses die back, some soils would be exposed, which could result in minor soil erosion. However, because the proposed herbicides would be targeted at invasive species, it is expected that perennial plants and grasses that may be present would not be affected by the herbicide treatments and would remain to provide some soil erosion protection. In addition, the project area experiences very low rainfall, which further reduces the risk of soil erosion. Reseeding with native grasses would result in the stabilization of surface soils on rolling hills by the following year.

The proposed hand weeding and thatching of vegetation in the ash/clay bed areas has the potential to expose soils. However, these clay soils absorb water, expanding and becoming sticky when wet; therefore, even if vegetation is removed, these areas are not prone to erosion.

Construction of the boundary fence would involve the placement of fence posts. Because the soils are generally shallow and rocky, gabion post supports on the surface would be used. Installation of fencing would preclude cattle from trampling soils and allow for the establishment of native grasses, further stabilizing the soils.

The proposed action would result in minor soil disturbance in the short term. The proposed action would result in the re-establishment and protection of native, fire-resistant grassland communities resulting in long-term soil stability and minor beneficial effects on soils and geology.

4.3 Air Quality

The Clean Air Act, as amended in 1977 and 1990, requires EPA to set National Ambient Air Quality Standards (NAAQS) for six pollutants harmful to human and environmental health, including ozone (O_3), particulate matter (PM), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and lead (Pb) (EPA 2016).

Air quality is negatively affected by everyday activities, such as vehicle use, as well as major events, such as wildfires. Wildfire smoke is composed of carbon dioxide, water vapor, particulate matter, carbon monoxide, nitrogen oxides, organic chemicals such as hydrocarbons, and trace minerals, which affect air quality (EPA 2016).

Air quality can also be affected by fugitive dust, which is considered a component of particulate matter. Fugitive dust is released into the air by wind or human activities and can have human and environmental health impacts (California EPA Air Resource Board 2007).

The nearest air quality monitoring station is located in Meridian, Idaho, approximately 40 miles from the project area. Succor Creek Natural Area is a low population area with minimal agriculture and low traffic density and air quality is generally considered to be good in the project area (EPA 2017). The air quality in the project area is considered to be "in attainment" for all criteria pollutants.

No Action

In the absence of a major wildfire in the area, there would be no impact on air quality under the no action alternative because current air quality conditions would not change. However, a major wildfire would be more likely to spread under the no action alternative, and a major wildfire would cause substantial pollutant emissions. Wildfire smoke can deteriorate air quality and expose vulnerable populations, such as youth and the elderly, to harmful pollutants (EPA et al. 2016). Particulate matter, specifically, can have many harmful effects, including eye and respiratory tract irritation, reduced lung function, asthma, and heart failure. (EPA et al. 2016). Smoke from large wildfires can affect air quality over very large areas and a large wildfire in the Succor Creek area could affect air quality in the Boise metropolitan area approximately 15 miles away. The no action alternative could have a minor and local impact on air quality.

Proposed Action

The proposed action would not result in major impacts on air quality. Under the proposed action, the use of ATVs to spray herbicides and haul materials to the boundary line fence could result in low levels of particulate matter (fugitive dust) and vehicle exhaust emissions, such as hydrocarbons. Emissions would be temporary, localized, and negligible. To reduce emissions, crews would keep ATV running times to a minimum and ensure that all engines are properly maintained. Backpack sprayers are operated via pump or battery and would have no fuel emissions. Thus, the proposed action would have negligible short-term air quality impacts from vehicle and equipment use and activities contributing to the release of fugitive dust. By reducing the risk of wildfire spread, the proposed action would have long-term, minor beneficial effects on air quality.

4.4 Climate Change

"Climate change" refers to changes in the Earth's climate caused by a general warming of the atmosphere. Its primary cause is emissions of greenhouse gases (GHGs), including carbon dioxide and methane. Climate change is capable of affecting species distribution, temperature fluctuations, and weather patterns. The Council on Environmental Quality's (CEQ) *Final NEPA Guidance on Consideration of Greenhouse Gas Emissions and the Effects on Climate Change* (CEQ 2016) suggested that quantitative analysis should be done if an action would release more than 25,000 metric tons of GHGs per year.

Eastern Oregon is located in the rain shadow caused by the Coast and Cascade mountain ranges. Succor Creek Natural Area is characterized by a semiarid climate where mean annual precipitation is 11.8 inches per year. The climate is relatively extreme, with winter mean minimum temperatures about 16° Fahrenheit (F) and summer mean maximum temperatures about 88° F (OPRD 2003). Higher elevations receive greater precipitation and lower mean temperatures.

Global and regional climate change is expected to accelerate in the coming decades. According to the Oregon Climate Change Research Institute's (OCCRI) *Third Oregon Climate Assessment Report* (Dalton et al. 2017), temperatures could increase by 3-7 degrees Fahrenheit by mid-century and 5-11 degrees Fahrenheit by the 2080s. In 2015, Oregon experienced the warmest and driest year on record, with most of the winter precipitation falling as rain rather than snow. The decreased snowpack led to record-low water levels in reservoirs and contributed to the severity of the 2015 wildfire season (Dalton et al. 2017). The frequency and severity of wildfires is expected to increase as the climate warms and vegetation shifts to allow longer fire seasons with hotter and faster-burning fires.

No Action

In the absence of a major wildfire, the no action alternative would have no effect on climate change, as there would be no equipment used that would emit GHG. Climate change is resulting in periods of extended drought and increasing the risk of wildfires in the area. The no action alternative would not provide any wildfire risk reduction, and a major wildfire would be more likely to spread through and from the area, and large quantities of GHGs could be released that would contribute to climate change.

Proposed Action

The proposed action would not contribute to climate change because potential GHG emissions from ATV use would be temporary and negligible. Backpack sprayers are operated via pump or battery and would result in no emissions of GHGs. Reducing the risk or severity of wildfires would have a minor, long-term beneficial effect on climate change by reducing the volume of GHGs released during a fire. Even with climate change resulting in extended periods of drought and increased wildfire risk, it is expected that the native perennial grasses would still become established resulting in reduced wildfire hazards.

4.5 Surface Waters and Water Quality

Section 303(d) of the Clean Water Act of 1977, as amended (33 U.S.C. § 1313(d)(2)), establishes requirements for states and Tribes to identify and prioritize waterbodies that do not meet water quality standards. Data from the Oregon Department of Environmental Quality (ODEQ) 2012 Integrated Report Assessment Database were queried to determine whether any streams in the project area are considered impaired or waters of concern.

The proposed project is located within the Succor Creek Sub-basin of the Columbia River Watershed (HUC 12-170501030904 and 12-170501030905) and is a tributary of the Snake River. Succor Creek is a relatively warm, shallow, perennial stream with a high mineral content. It is impacted by grazing; however, following the establishment of the Natural Area and a reduction in grazing pressure, a healthy forested riparian area has become re-established (OPRD 2003). The Lonesome Willow parcel was acquired more recently (in 2005) and the riparian zone in that parcel is still degraded from past grazing impacts. Trimbly Creek is a tributary of Succor Creek that extends up through the project area. No streams in the project area were listed as Section 303(d) impaired streams for any specific water quality concerns (ODEQ 2012).

No Action

In the absence of a major wildfire in the project area, the no action alternative would have no effect on surface water quality because there would be no change in existing conditions. However, a major wildfire would be more likely to spread under the no action alternative and the loss of vegetation cover could lead to increased soil erosion and sedimentation. Because the project area is primarily grassland, it would be expected that herbaceous plants would regrow within a year of wildfire. Therefore, the potential for soil erosion and sedimentation following a fire would be relatively short term. The no action alternative would have a minor effect on surface water quality in the event of a major wildfire.

Proposed Action

The use of herbicides to kill non-native vegetation under the proposed action would retain the root systems of the non-native grasses, which would prevent a change in soil erosion and sedimentation. By the time the treated vegetation degrades to a point where soil erosion might become a concern, the native grasses seeded into the treated areas would have become established sufficiently to prevent impacts on water quality from erosion and sedimentation. As discussed in Section 4.2, disturbance of the ash/clay soils is unlikely to result in erosion because they expand and get sticky when wet and do not erode.

The use of ATVs could result in some localized, short-term, negligible soil disturbance; however, ATVs would be used on rolling hills away from the wetted perimeter of surface waters, so the potential for disturbed soils to reach surface waters would be low. In addition, ATVs would not be fueled or parked in or near watercourses. Therefore, there would be no impact on surface waters and water quality from erosion and sedimentation.

The herbicide glyphosate is registered for use in aquatic areas and might be applied adjacent to streams and wetlands where non-native invasive plants are established. Under the proposed action, herbicides would not be applied to surface waters and only herbicides registered for use in aquatic areas would be used within 25 feet of streams or wetlands. Herbicides would only be applied in conformance with the label and by licensed applicators. Other best management practices (BMPs) to avoid and minimize impacts from the use of herbicides were described in Section 3.2. Therefore, there would be a negligible effect on water quality from the use of herbicides under the proposed action.

The proposed fence would span several watercourses. At water crossings, fold-away fencing would be installed (**Figure 4.1**). These fold-away fences prevent cattle from crossing a stream without impeding water flow and they prevent the build-up of debris against the fence in the watercourse. Most of these watercourses are intermittent channels and work would be conducted when they are dry. No work would be conducted below the ordinary high-water mark and fence posts would be placed to span watercourses. Hand tools (hammers and mallets) and small work crews would be used to construct the fence. The fence would be supported by metal posts and rock gabions for stabilization. No post holes would be dug; instead, metal fence posts would be hammered into the ground where feasible and rock gabion posts would be used to stabilize the fence at necessary intervals. ATVs would be used to transport crews and tools to the fence line and will not operate in the wetted areas. Refueling and staging areas would be located away from

water bodies and channels; therefore, there would be negligible impacts on surface waters or water quality from the fence construction.

The proposed action would result in the re-establishment and protection of native grassland communities resulting in long-term soil stability and beneficial effects on surface waters and water quality.

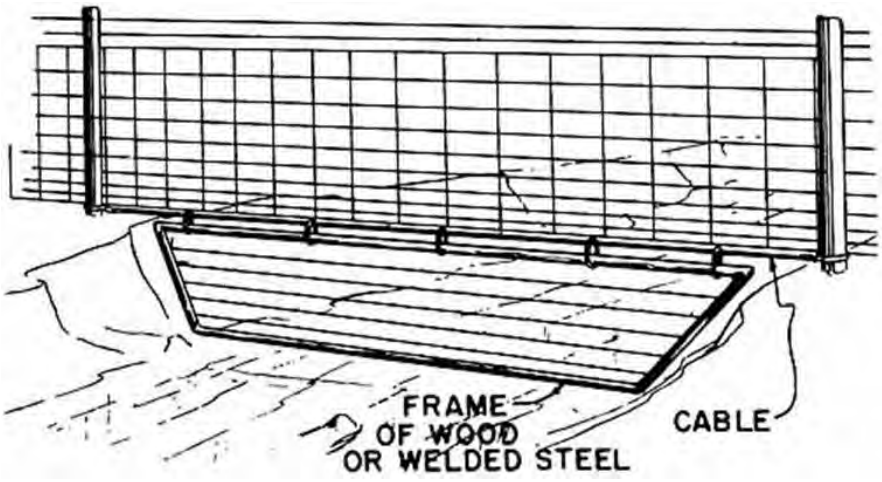

Figure 4.1. Folding Fence

4.6 Wetlands

Executive Order (EO) 11990, Protection of Wetlands, requires that federal agencies take action to minimize the loss of wetlands. Activities that fill jurisdictional wetlands require a permit from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act of 1977 (33 U.S.C. 1344).

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 and prohibits FEMA from funding construction in a wetland unless no practicable alternatives are available. To comply with EO 11990, FEMA uses the eight-step decision-making process in 44 CFR 9.6 to evaluate proposed actions that have potential to affect wetlands.

The U.S. Fish and Wildlife (USFWS) National Wetlands Inventory (NWI) maps for the proposed project area indicate that there are freshwater emergent and freshwater forested/shrub wetlands associated with Succor Creek and its floodplain within the project area (**Figures 4.2, 4.3, and 4.4**) (USFWS 2018a).

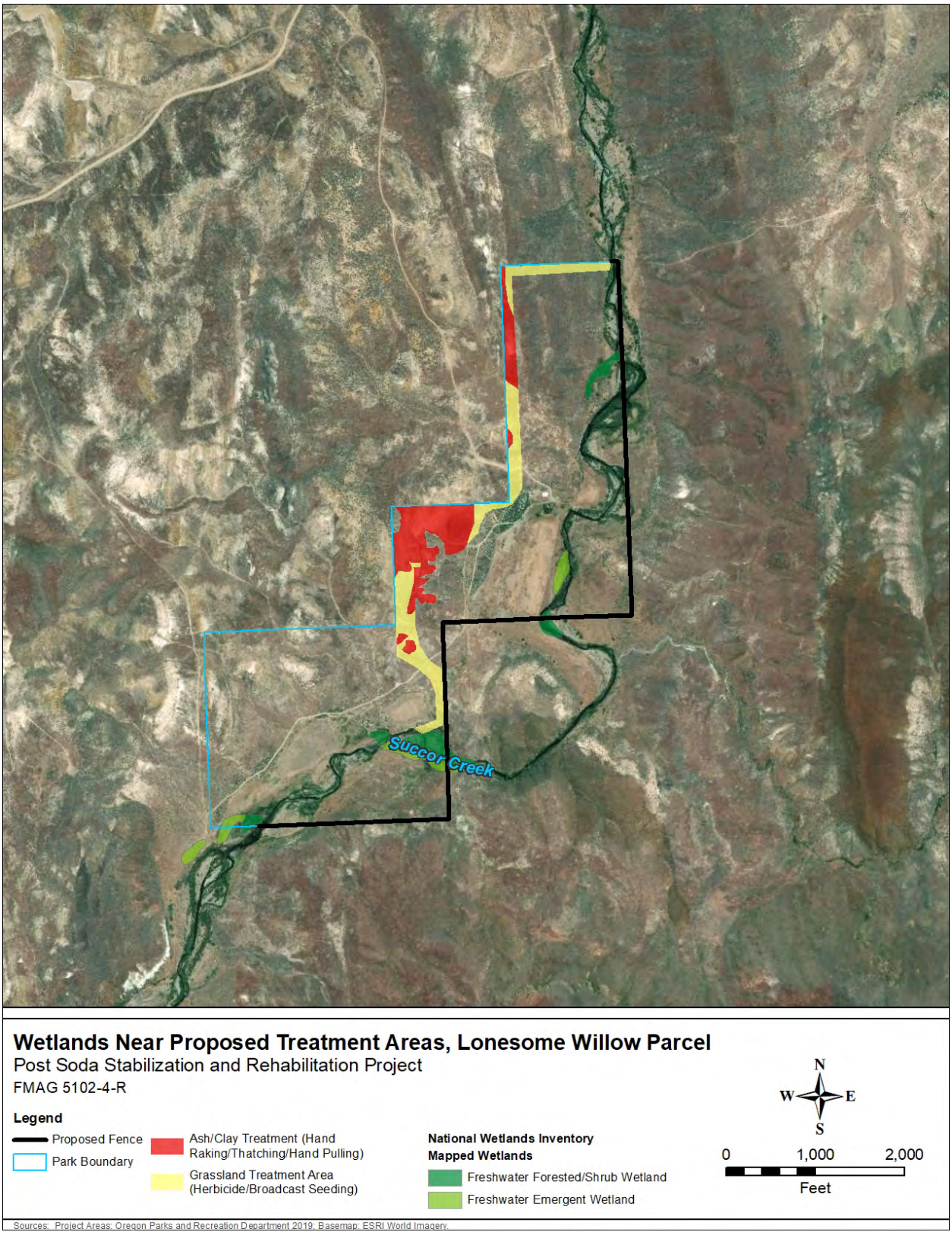

Figure 4.2. Wetlands Near Proposed Treatment Areas, Lonesome Willow Parcel

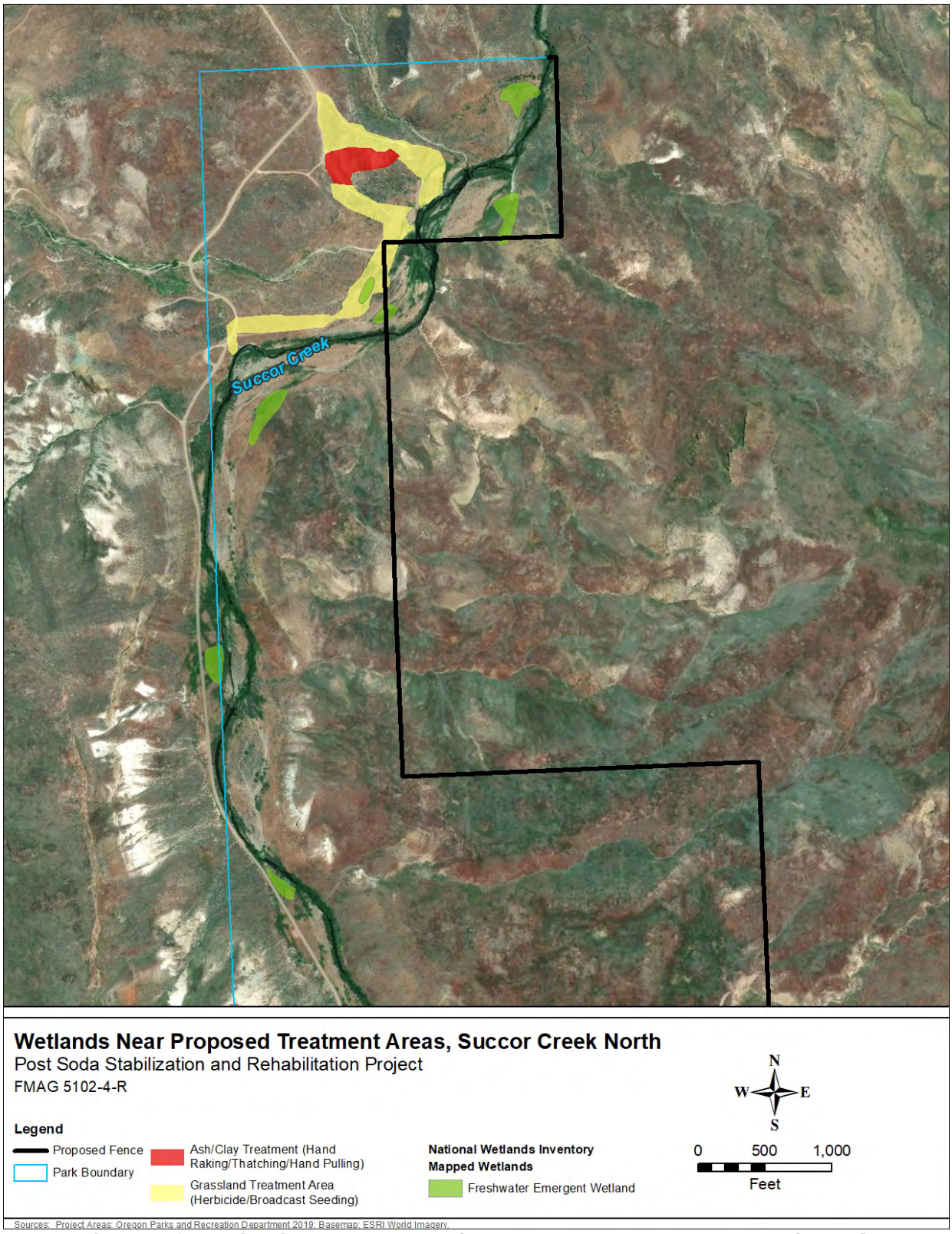

Figure 4.3. Wetlands Near Proposed Treatment Areas, Succor Creek North

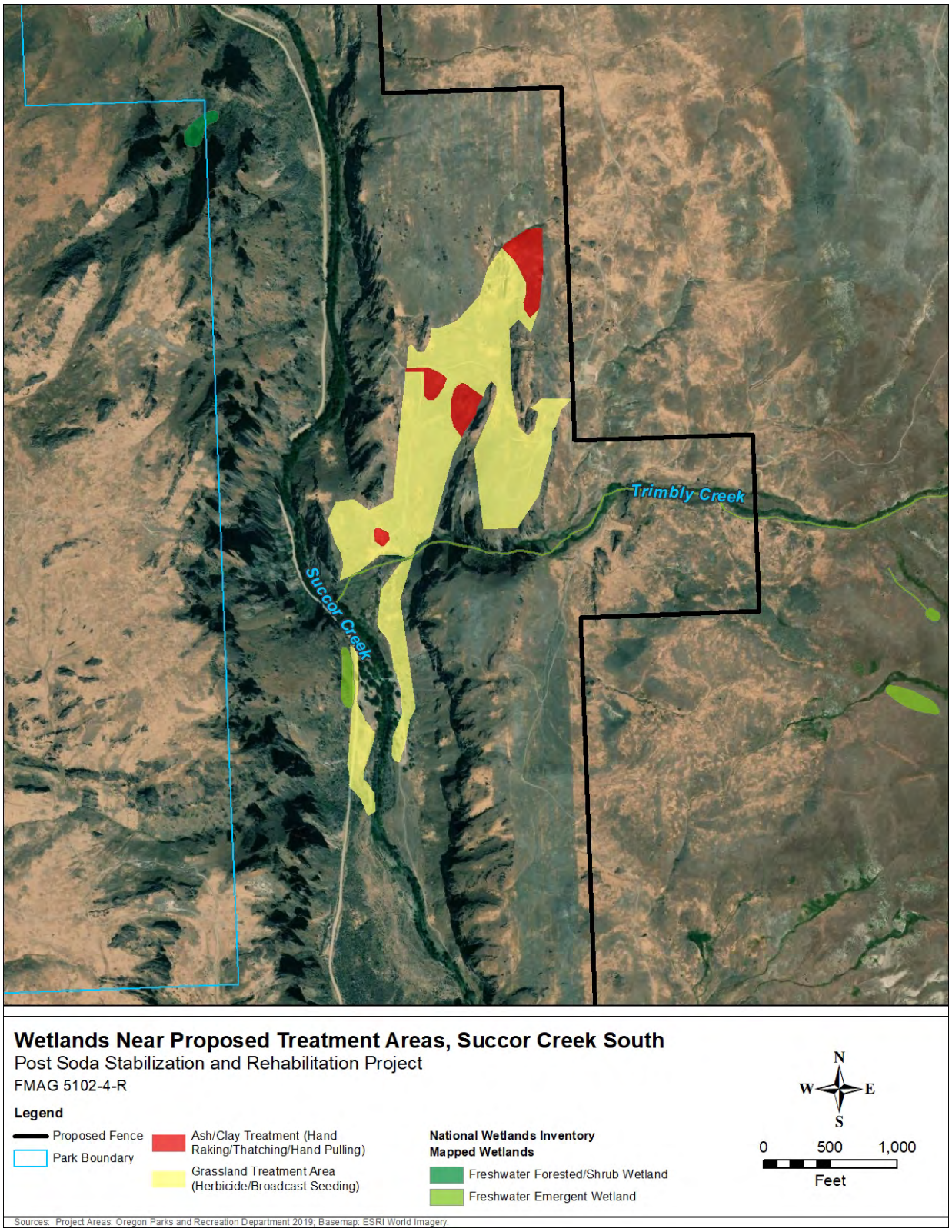

Figure 4.4. Wetlands Near Proposed Treatment Areas, Succor Creek South

The NWI maps show a wetland area within the south treatment area to the west of the main access road. This area is not associated with Succor Creek and is separated from the creek by the main road through the Natural Area. Much of this area is steep cliffs and rocky slopes and does not support wetland hydrology. Vegetation in this area along the road includes scouring rush horsetail (*Equisetum hyemale*), which can flourish in either wetland or non-wetland areas; therefore, its presence is not necessarily indicative of wetland hydrology (USACE 2016). In addition, there is a wetland area on the east side of Succor Creek associated with flow from Trimbly Creek that does support wetland hydrology and vegetation including common cattail (*Typha latifolia*). This wetland area is not mapped on the NWI maps and is not shown on the figures.

No Action

In the absence of a major wildfire in the project area, the no action alternative would not have an adverse effect on wetlands because the current conditions would not change. However, a major wildfire would be more likely to spread under the no action alternative and could have moderate impacts on wetlands. A major wildfire would remove vegetative cover and cause increased erosion and sedimentation, which would adversely impact wetlands.

Proposed Action

There is one place in the Lonesome Willow parcel where vegetative treatments that may include herbicides would be located near wetlands (**Figure 4.2**). In the central project area, there is one potential wetland located within an herbicide and seeding treatment area (**Figure 4.3**). In the south project area, there are wetlands associated with Trimbly Creek near the campground that cross an herbicide and seeding treatment area (**Figure 4.4**). Although NWI indicates that a wetland is located in the south project area west of Succor creek, OPRD has confirmed through field observations that this area is not a wetland, but instead is a shadow from an adjacent cliff. Any potential wetlands would be treated as wetlands while work is being completed. There would be no fill placed in wetlands and herbicides would only be applied to non-native invasive vegetation. All herbicide treatment would be conducted according to product labels and best management practices, as described in Section 3.2, would be followed. Because of the small area affected and with implementation of BMPs, there would be a negligible effect on wetlands from the proposed action. The ash/clay beds are not associated with wetlands; therefore, the hand removal of invasive plants from these areas would have no effect on wetlands. In the long term, a major wildfire would be less likely to spread under the proposed action, which could help protect wetland vegetation and would have minor beneficial effects on wetlands.

Local, short-term impacts to wetlands are possible during construction of fences in the project area. The fence line would not span Succor Creek in the Lonesome Willow parcel and north areas because high flows in Succor Creek would carry debris making a fence impractical. The fence would end at the edge of the creek on either side, which would limit livestock access while allowing flood debris to be carried along the main channel. Some metal fence posts may be driven into wetlands adjacent to Succor Creek, but rock gabion fence supports would not be constructed in wetland areas. The exclusion of cattle from the creek and wetland areas would also have a minor, long-term beneficial effect on wetlands.

4.7 Floodplains

EO 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The Succor Creek Natural Area is encompassed on the FEMA Flood Insurance Rate Map (FIRM) panel 4101491125B; however, this panel is not printed, and the base floodplain has not been studied. The area is considered to be a Zone D for purposes of the National Flood Insurance Program. Because Succor Creek is constrained along much of its length to a narrow canyon, any floodplain areas would be narrow and closely associated with the creek. In the Lonesome Willow parcel, the surrounding hills are lower, and the creek is not as closely bounded by rising topography. In this area, there are reaches with a more braided channel and associated wetland areas that may be assumed to be within a floodplain.

No Action

In the absence of a major wildfire, the no action alternative would have no effect on floodplains because the current conditions would continue unchanged. However, a major wildfire would be more likely to spread under the no action alternative and could have impacts on the floodplain. If a wildfire were to occur, floodplain vegetation would be destroyed, which could lead to increased stormwater runoff following a rain event. The no action alternative has the potential to increase localized sedimentation and affect natural floodplain functions of habitat and surface water filtration.

Proposed Action

Impacts on floodplains or changes in flood hazards are not anticipated, because no construction or floodplain development is proposed. The proposed action would not increase flood elevations or velocities because modifications to stream banks would not occur and land in the floodplain would not be built up. Vegetation treatment with herbicides would occur in very limited areas of the floodplain and would conform to the label restrictions and BMPs described in Section 3.2. New fence could extend into the floodplain, but it would be limited to metal fence posts and wire strand fencing that would not impede flow. Rock gabion fence supports would have no impact on floodplain functions. Overall, the proposed action would have negligible effects on floodplain functions. Since the action is not anticipated to have any adverse effects on the floodplain or be adversely impacted by the floodplain, no additional studies are warranted to delineate the base floodplain. In the long term, a major wildfire would be less likely to spread under the proposed action, which could help protect riparian and floodplain functions and would have minor beneficial effects on floodplains.

4.8 Vegetation

The project is located within the Owyhee Uplands and Canyons zone of the Northern Basin and Range ecoregion, which is characterized by sagebrush steppe, deep river canyons, barren lava fields, badlands, and tuffaceous outcrops. Plant communities identified within the action area include volcanic ash/clay beds, shrub-steppe, and riparian habitat.

Sagebrush steppe is the dominant plant community within the project area and surrounding ecoregion. Periodic wildfires have transformed much of this area into grasslands. Generally, the unburned areas have a greater density of sagebrush and other shrub forming species. Recently-burned areas tend to be dominated by a mix of native and non-native grasses and forbs. Cheatgrass (*Bromus tectorum*) and medusahead (*Taeniatherum caput-medusae)* are the most abundant species site-wide, both of which are noxious weeds that perpetuate wildfires, contributing to increased loss of shrub steppe habitat. Native grasses such as bunch grass dominate steep shaded canyon slopes where cattle are unable to graze. Cattle preferentially graze native species, which also allows invasive species to establish and subsequently outcompete native species for water and nutrients.

Volcanic ash and clay beds are interspersed throughout the project area and provide habitat for a specialized niche plant community, host to a variety of rare plant species. Vegetative cover is relatively low in these areas, as few plants can tolerate the harsh conditions present on these soils. Noxious weeds are encroaching into the volcanic ash/clay beds and alter the ecosystem by generating new soils (when decayed), that threaten rare native plants. Some of the rare species known to occur in the action area include smooth mentzelia (*Mentzelia mollis*), Owyhee clover (*Trifolium owyheense*), and sterile milkvetch (*Astragalus cusickii* var. *sterilis*); none of which are federally listed.

A few small tributaries connect with Succor Creek within the action area, including Trimbly Creek and other unnamed streams. Succor Creek is lined by a forested strip of primarily white alder (*Alnus rhombifolia*) and Pacific willow (*Salix lucida*) that extends throughout much of the reach within the Natural Area. This forested riparian area is the only forest found within the Natural Area and for an extended area surrounding the Natural Area. The Trimbly Creek riparian area is primarily dominated by shrubs and herbaceous species. Shrub- and cattail-dominated wetlands were noted near the campground area east of Succor Creek as described in Section 4.6.

EO 13112 requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive species are currently widely present throughout the project area as noted above.

No Action

In the absence of a major wildfire in the project area, the no action alternative would allow for the continued negative effect on vegetation because the invasive species that are currently present would persist and continue to crowd out native species. Invasive plants would continue to spread into the ash/clay bed areas leading to a change in soils and threatening the rare species currently present. Cattle grazing would continue leading to further conversion of native bunch grass stands to more flammable invasive non-native grass species. A major wildfire would be more likely to spread under the no action alternative due to the continued degradation of the vegetation communities. A major wildfire could also damage the forested riparian areas that are rare in this part of eastern Oregon. Because trees take much longer to recover than grasslands, the loss of riparian forests could have long-term impacts on habitat for birds, mammals, and fish. Under the no action alternative there would be a moderate impact on vegetation.

Proposed Action

The primary herbicides proposed for use under the proposed action, imazapic, glyphosate, and clethodim, affect many broad leaf weeds and some grasses, including invasive species found within the treatment areas. Herbicide application has the potential to affect native plants in the treatment areas. However, short-term application impacts on native plants would be negligible as there are few native plant species growing in the project area, and herbicides would be targeted at non-native species. Removal of invasive species would allow reseeded native grasses first chance at the nutrients and water necessary for their establishment. Native grasses grow and mature more slowly, which would allow the wildfire season to return to its usual duration. On the ash/clay beds, the native plant community is more fire resistant (partially due to the low density of plant cover) than the invasive species that are threatening to overtake these areas. Wildfires may be less severe and frequent, potentially sparing a greater number of acres from destruction, including riparian forested areas.

Construction of the fence could impact native plants if fence posts were constructed on or immediately adjacent to native plants. However, there are few native plants growing in the treatment areas so short-term construction impacts from fence construction would be negligible. The fence would preclude cattle from the Natural Area, further protecting the native grass and forb species that would be seeded into the treatment areas and preventing grazing from contributing to the spread of invasive species throughout the Natural Area.

The proposed action would have a long-term beneficial effect on vegetation in the project area from the reduction in cattle grazing and wildfire hazards.

4.9 Fish and Wildlife

Succor Creek Natural Area supports diverse fish and wildlife communities. Some of the habitats are in good condition and provide wildlife species dependent on those habitat types with the essential elements needed for their continued existence. Some habitats are highly degraded from overgrazing, weed infestations, and unnatural fire regimes that remove habitat elements essential for species that are dependent on these habitats to survive, reducing species diversity.

The Succor Creek Natural Area Natural Resources Management Plan lists many fish, reptile, amphibian, bird, and mammal species that occur within the Natural Area (OPRD 2003). Some of the representative species include interior red-band trout (*Oncorhynchus mykiss* ssp.), long-nose leopard lizard (*Gambelia wislizenii*), Brewer's sparrow (*Spizella breweri*), sage sparrow (*Amphispiza belli*), black-throated sparrow (*Amphispiza bilineata*), loggerhead shrike (*Lanius ludovicianus*), pygmy rabbit (*Sylvilagus idahoensis*), mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and cougar (*Puma concolor*).

Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) Essential Fish Habitat (EFH) is defined as, "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." EFH for the Pacific salmon management unit includes Chinook, coho, and pink salmon. An anthropogenic total fish migration barrier (Hells Canyon Dam Complex) is present downstream of the project area, so no anadromous salmonids are present within stream segments in the project area. The MSA requires that anthropogenically

blocked fish habitat be assessed because it may be opened up to use by salmon species in the future. Coho and Chinook salmon could potentially reach Succor Creek and its fish-accessible tributaries if fish passage barriers were removed along the Snake River. EFH may have historically been present in the action area along Succor Creek or its tributaries prior to placement of the barrier.

The Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. §§ 703-711), provides federal protections for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious activities. Migratory birds are present in the project area.

No Action

Under the no action alternative, the habitats that support fish and wildlife would continue to degrade from the spread of invasive plants and cattle grazing. In the long-term, this could lead to a reduction in species diversity. A major wildfire would be more likely to spread under the no action alternative, which would result in the destruction of wildlife habitat, potentially kill individuals, and promote the spread of invasive plants that further degrade remaining habitats. The no action alternative would have a minor adverse impact on fish and wildlife and their habitats.

Proposed Action

The herbicides proposed for use would not adversely affect fish and wildlife. Aquatic risk assessment considers that fish and aquatic insect exposure to imazapic, glyphosate, and clethodim would occur primarily through direct contact with contaminated surface waters. Wildlife risk assessment considers the herbicide behavior in the environment and potential routes of exposure. If mammals and birds eat contaminated vegetation, they may have a minimal indirect exposure; however, BMPs would be followed and the likelihood of even indirect exposure to wildlife is not expected. Direct exposure can occur when mammals and birds contact herbicide residues with their skin or eyes or when they inhale vapors or particulates. Because there would be no aerial spraying and herbicides would be applied from backpack sprayers or ATVs, most birds and wildlife would be expected to move away from the application activity and avoid direct exposure. Imazapic and glyphosate are low in toxicity to fish, birds, and mammals (Durkin and Follansbee 2004, Washington Department of Transportation [WSDOT] no date, NPIC 2019). Clethodim is low in toxicity to birds and large mammals, has a potential for a modest risk to small mammals, and is slightly toxic to cold- and warm-water fish species (EPA 1992, Durkin 2014). However, because imazapic and clethodim are not approved for aquatic applications, they would not be used within 25 feet of surface waters. Only herbicides approved for aquatic applications, such as glyphosate, would be used near streams and wetlands. Therefore, there would be negligible effects on fish and wildlife from the application of herbicides following the BMPs outlined in Section 3.2.

Noise and activity from ATV use during herbicide application, seeding, and fence building could disturb wildlife and cause individuals to move from their preferred areas. The rugged terrain of the project area provides many topographic changes where wildlife could be out of sight and hearing of activities within a relatively short distance. In addition, the activities would be

localized and of a short duration. Potential impacts on wildlife from ATV use would be temporary and have minor impacts on local populations.

The proposed fence would be constructed of smooth, four-strand wire to allow the safe passage of wildlife species such as deer and antelope. Therefore, the proposed fence would have negligible impacts over the long-term, while the anticipated improvement in habitats with the exclusion of cattle would have beneficial effects in the long-term.

Since EFH may have historically been present in the action area along Succor Creek or its tributaries prior to the construction of dams on the Snake River, the proposed action would avoid impacting EFH. Minimization measures include avoiding placing any fill in streams or wetlands and herbicides would not be applied to streams and wetlands. Temporary impacts from the project would have no effect on EFH, since no EFH species would be present for at least many years following project activities. Long-term effects of the project on EFH could include reduced fire frequency resulting from control of non-native grasses. This could benefit stream habitat conditions by reducing fine sediment delivery to the streams. Additionally, long-term effects could include improved bank stability and channel complexity resulting from livestock exclusion from the action area. Therefore, the project would not adversely affect EFH for Pacific salmonids.

Many of the proposed activities would occur during the spring. It is not anticipated that many active nests would be found because the current vegetation conditions do not generally support nesting birds. However, clearing of the project area, including the removal of vegetation, during the migratory bird nesting period has the potential to impact active migratory bird nests. The applicant shall follow USFWS guidelines if impacts to migratory birds are anticipated to occur (https://www.fws.gov/policy/m0407.pdf).

4.10 Threatened and Endangered Species and Critical Habitat

The Endangered Species Act of 1973 gives USFWS and the National Marine Fisheries Service (NMFS) authority for the protection of threatened and endangered species. This protection includes a prohibition of direct take (e.g. killing, harassing) and indirect take (e.g. destruction of critical habitat). The OPRD Code prohibits take of state-listed threatened and endangered species.

The USFWS Information for Planning and Consultation (IPaC) on-line database does not identify any federally listed species within the action area (USFWS 2018b). The fish migration barrier located downstream at the Hells Canyon Dam complex prevents listed anadromous salmonids from entering Succor Creek and tributaries in the action area. Therefore, no ESA-listed species regulated by NMFS are present within the project area (NMFS 2016). In addition, the listed plant species identified by Oregon as occurring within Malheur County, and the spatial data from Oregon Biodiversity Information Center (ORBIC) were also reviewed.

There is one federally-listed threatened and endangered species with the potential to occur within the proposed project vicinity: Howell's spectacular thelypody (*Thelypodium howellii* spp. *spectabilis*). The nearest mapped occurrence of Howell's spectacular thelypody is listed in ORBIC as located approximately 60 miles north of the project area. In addition, the ODA

identifies Willow Creek Valley (approximately 40 miles north of the project area) in Malheur County as supporting a population of Howell's spectacular thelypody. However, there is no suitable habitat present within Succor Creek Natural Area.

The nearest designated critical habitat is for bull trout (*Salvelinus confluentus*), located approximately 60 miles northwest of the project area. The nearest proposed critical habitat is for slickspot peppergrass (*Lepidium papillferum*), located approximately 28 miles east and northeast from the project area.

No Action

There are no federally-listed species present within the project area; therefore, in the absence of a major wildfire, the no action alternative would have no effect on threatened and endangered species because existing conditions would continue unchanged. However, a major wildfire would be more likely to spread under the no action alternative and could have negative impacts on habitat for listed species outside of the project area.

Proposed Action

Because there are no federally listed species present or potentially present within the project area, there would be no effect on listed species from the proposed action (Appendix A). The purpose of the project is to reduce the risk of fires that may start within the park from spreading to areas outside the park; therefore, the proposed action could have a minor positive effect on federally listed species that may occur outside of the project area.

4.11 Cultural Resources

This section provides an overview of potential effects on cultural resources, including historic properties and archeological resources. Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470f), requires that activities using federal funds undergo a review process to consider potential effects on historic properties that are listed in or may be eligible for listing in the National Register of Historic Places (NRHP). Cultural resources include prehistoric or historic archeology sites; historic structures; historic districts; objects; artifacts; cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties that may have religious or cultural significance to federally recognized Indian Tribes; or other physical evidence of human activity considered to be important to culture, subculture, or community for scientific, traditional, religious, or other reasons.

Pursuant to 36 CFR 800.4(a)(1), an Area of Potential Effects (APE) was defined to include the areas within which the undertaking may directly or indirectly affect cultural resources. Within the APE, impacts on cultural resources were evaluated for both historic structures (aboveground cultural resources) and archaeology (belowground cultural resources).

The project area is located within the homeland of the Tagötöka, a Northern Paiute tribe. Tribal use of the area stretches back to time immemorial and extends across a much larger area than the defined Project APE. The traditional economy of the tribe was based on a seasonal cycle of hunting, gathering (plants and insects, especially crickets), and fishing throughout their homeland (Fowler and Liljeblad 1986). The material culture consisted of various seasonally

available plant, animal, and mineral resources. The nuclear family provided the basis of the tribe's social organization, but groups also formed around collective activities, such as salmon fishing or cricket collecting.

The earliest explorers in the region were trappers employed by the Northwest Company. Following the discovery of gold in 1863, miners and stockmen established homesteads and ranches in the region. Historic map review suggests the area remained rural through the historic period and that no structures were constructed within the current survey areas. The Oregon State Highway Department acquired the Succor Creek Recreation area between 1966 and 1969 to establish the Succor Creek Recreation area (BLM 2018; McArthur 2003).

According to Oregon State Historic Preservation Office (SHPO) records, four archeological surveys have occurred within the APE. Two of these surveys barely intersected the APE, while one covered only a small portion of the APE. OPRD conducted the archaeological survey most relevant to the project area (Knowles et al. 2011). Six previously recorded archeological sites were documented as occurring within the APE in the southern portion of the fuels reduction areas, and three sites were documented as located immediately adjacent to the APE. None of the findings were formally evaluated for listing on the NRHP. A systematic pedestrian survey was conducted for the entire APE from August 19 to 22 and September 24 to 27, 2019. Of the six previously reported archaeological resources in the APE, five were relocated and unchanged since their last visit by archaeologists (Solimano et al. 2019). A total of 15 new archeological resources were identified within the APE; nine are along the proposed fence line and the remaining six are within the treatment areas. Six of the new resources were recommended as not eligible for the NRHP, four were recommended as eligible for the NRHP, and the remainder were unevaluated.

On June 12, 2018, consultation was initiated with the Burns Paiute Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Shoshone-Paiute Tribes of the Duck Valley Reservation, the Fort McDermitt Paiute and Shoshone Tribes of the Fort McDermitt Indian Reservation, and the Shoshone-Bannock Tribes of the Fort Hall Reservation for the proposed action to solicit any additional information about cultural resources in the APE that could be impacted by the project. No comments were received. The cultural resources assessment has also been provided to the Tribes for comment.

No Action

The No Action Alternative would have no impact on cultural resources because no work would be conducted.

Proposed Action

The Proposed Action is expected to have no adverse effect on cultural resources. The treatment activities including herbicide application and reseeding would not affect cultural resources that may be present. Fence construction would involve the installation of metal posts or the construction of gabion supports. With implementation of the measures described below, the potential for ground disturbance associated with these activities is negligible.

A 20-meter buffer (approximately 66 feet) would be applied to each resource located within the treatment areas that were recommended as eligible or were unevaluated. Within this buffer, no project work would be conducted. There is one site recommended as eligible in the fence portion of the APE that consists of two cairns approximately 262 feet apart. A 66-foot buffer would be implemented around each cairn and fence construction would run directly between the cairns to avoid impacts (Solimano et al. 2019). Other unevaluated sites within the fence line portion of the APE would be avoided.

The cultural resources report was submitted to the SHPO and the Tribes on (DATE) with the recommended avoidance measures.

4.12 Environmental Justice

Environmental justice is defined by EO 12898 (59 Federal Register 7629) and CEQ Guidance (1997). Under EO 12898, demographic information is used to determine whether minority populations or low-income populations are present in the areas potentially affected by the range of project alternatives. If so, a determination must be made whether implementation of the program alternatives may cause disproportionately high and adverse human health or environmental impacts on those populations.

This environmental justice analysis is focused at the local (i.e. census tract) level. The local area included in this analysis is where project-related impacts would occur, potentially causing an adverse and disproportionately high effect on neighboring minority and low-income populations. For this project, the analysis includes census tract 9709 in Malheur County, which includes the project area and adjacent residential areas. Because of the low population density throughout much of Malheur County, census tract 9709 encompasses most of the county. **Table 4.3** and **Table 4.4** provide demographic and economic and demographic characteristics for census tract 9709 (U.S. Census Bureau 2018). Information for Malheur County as a whole is presented for comparison. The Succor Creek project is located within a large state natural area and does not have any resident population near the project area.

Minority census tracts are defined as meeting either or both of the following criteria:

- The census tract contains 50 percent or more minority persons
- The percentage of minority persons in any census tract is more than 10 percent greater than the average of the surrounding County.

CEQ (1997) defines the term “minority” as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. As shown in **Table 4.3**, census tract 9709 has a total minority population (21.6 percent) that is lower than the County average (30.4 percent) (U.S. Census Bureau 2018). Census tract 9709 does not contain a minority population.

Table 4.3. Minority Populations

Race	Malheur County Census Tract 9709		Malheur County	
	Population	Percentage	Population	Percentage
Total Population	**5,942**	**--**	**30,474**	**--**
White	4,314	72.6 %	18,902	62.0 %
Black or African American	187	3.1 %	306	1.0 %
Asian	117	2.0 %	471	1.5 %
American Indian and Alaska Native	81	1.4 %	167	0.5 %
Native Hawaiian and Other Pacific Islander	8	0.1 %	21	0.1 %
Some Other Race/Multiracial	286	4.8 %	592	1.9 %
Hispanic, White alone	603	10.1 %	7,701	25.3 %
Total Minority Population[2,3]	**1,282**	**21.6 %**	**9,258**	**30.4 %**

Notes:
[1] The terms Hispanic and Latino can apply to members of any race, including respondents who self-identified as "White." The total numbers of Hispanic and Latino residents for each geographic region are tabulated separately from the racial distribution by the U.S. Census Bureau
[2] A minority is defined in CEQ's environmental justice guidance as a member of the following population groups: American Indian/Alaskan Native, Asian or Pacific Islander, Black (non-Hispanic), or Hispanic (CEQ 1997).
[3] "Total Minority" includes all people who are not "White alone," plus Hispanics and Latinos who are white alone.

Residents of areas with a high percentage of people living below the poverty level may be considered low-income populations. The U.S. Census Bureau poverty threshold for a family of four (two adults and two children under the age of 18) in 2017 was $24,858 and $12,752 for an individual (U.S. Census Bureau 2017). Low income populations are considered to include residents of areas where the median family income is less than 60 percent of the median income of the surrounding area. This analysis also considered whether the project area's median household and per capita incomes were substantially lower than that of the country's average.

As shown in **Table 4.4**, census tract 9709 has a median household income that is higher than Malheur County as a whole. Census tract 9709 has a level of poverty level approximately two-thirds lower than that of Malheur County as a whole (as measured by the percentage of the population with an income below the poverty threshold) (U.S. Census Bureau 2018). The immediate project area also has high median incomes and a low poverty rate. Households with incomes below the poverty level comprise 14.7 percent of the population in census tract 9709 of Malheur County and 22.2 percent in Malheur County as a whole (U.S. Census Bureau 2018). Based on the income criteria above, census tract 9709 is not considered to have a low-income population.

Table 4.4. Low Income Populations

Parameter	Malheur County Tract 9709	Malheur County
Percentage of population below poverty level	14.7%	22.2%
Median household income	$42,826	$34,027
Median family income	--	$44,570

No Action

Because no minority or low-income populations occur in or near the project area, the no action alternative would have no effect on minority and low-income populations.

Proposed Action

Because no minority or low-income populations occur in or near the project area, the proposed action would have no effect on minority and low-income populations.

4.13 Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste Amendments, defines hazardous wastes. In general, both hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or to the environment when released or otherwise improperly managed.

Hazardous materials may be encountered in the course of a project or they may be generated by the project activities. To determine whether any hazardous waste facilities exist in the vicinity or upgradient of the proposed treatment parcels, or whether there is a known and documented environmental issue or concern that could affect the proposed treatment parcels, a search for Superfund sites, toxic release inventory sites, industrial water dischargers, hazardous facilities or sites, and multi-activity sites was conducted using the EPA Envirofacts database. According to the Envirofacts database, no hazardous sites, including Superfund, toxic release, industrial water dischargers, hazardous waste, or multi-activity sites, exist within the project area (EPA 2018). There is no evidence of hazardous substances or wastes generated, treated, or disposed in the vicinity of the project area. Envirofacts shows no RCRA or industrial wastewater facilities within the project area or vicinity.

No Action

No active hazardous sites were identified within the project area that would potentially affect the existing environment. Under the no action alternative, existing conditions with respect to hazardous materials would not change. There would be no treatment work conducted; therefore, there would be no potential for release of hazardous materials. In the event of a major wildfire, it

might be expected that fire retardant materials might be applied to the grasslands and shrub steppe. The proposed treatment areas may be likely areas for application as they adjoin Succor Creek and the cliffs along the canyon that make a natural fire break. Fire retardants are generally considered to be non-toxic, but there may be risks to small mammals and other wildlife from concentrated exposures (Modovsky 2007). However, exposures would likely be short-term as the application "footprint" of these chemicals is quite limited in terms of foraging areas and species habitat for any individual animal and the ingredients generally degrade in the environment (Modovsky 2007). Therefore, the potential for adverse effects is likely to be negligible.

Proposed Action

Under the proposed action, no impacts from waste storage and disposal sites would occur because no hazardous facilities are in or near the proposed work area (EPA 2018). In the event that site contamination or evidence of contamination is discovered during implementation of the proposed action, OPRD would manage the contaminants in accordance with the requirements of the governing local, state, and federal regulations and guidelines.

The proposed action would involve the use of some mechanical equipment (e.g. ATVs) and there is always a minor threat of leaks of oils, fuels, and lubricants from the use of such equipment. The short-term nature of the project and use of equipment in good condition would reduce any potential effect to a negligible level.

Herbicides would be applied in accordance with the BMPs described in Section 3.2 and all federal, state, and local regulations. With application of the BMPs and adherence to EPA and Oregon standards, herbicide applications would result in negligible to minor effects.

4.14 Public Health and Safety

Succor Creek Natural Area is state park managed for its recreational and natural values. There are no public services or emergency responders within the project area. However, the area is served by Malheur County and state and federal agency staff would respond to issues at the Natural Area as needed.

Currently Succor Creek Natural Area has 23 primitive campsites with picnic tables and a day use area that is also used for camping. A concrete vault toilet was constructed in the fall of 2001 in the picnic area. There is no potable water and use fees are not collected so there is little data on use. The Natural Area is used by rock hounds, bird watchers, hikers and explorers, upland bird hunters, OHV users, picnickers, and campers. Geode collecting is a popular activity in Succor Creek.

There is no usage data for the Succor Creek Natural Area. Currently, no fees are collected and there are no records of documented use. Hunters and rock hounds camp there during certain times of the year, mainly from late spring through early fall. On occasion, Boy Scouts and other large user groups camp at the park. Seasonal use by upland game bird hunters and other types of game is allowed.

No Action

Under the no action alternative, the potential for a wildfire to spread from the campground into surrounding uplands would remain high because rehabilitation work to reduce highly flammable invasive species would not occur. In addition, the potential for a wildfire originating elsewhere to reach the campground and day use area would also remain high placing users at risk. Access in and out of the Natural Area is via a narrow dirt road and there are no alternate routes if it should be cut off. Because the area is not staffed and does not have reliable cell coverage, the ability of authorities to alert recreational users of fire danger is limited.

Under the no action alternative, the potential that a major wildfire could cross Succor Creek and burn unimpeded between Owyhee Reservoir and the outskirts of Boise, Idaho, would remain high. The amount of area that could be burned would be much greater than if a fire could be contained in the vicinity of Succor Creek. Larger wildfires generate more smoke and particulate matter, which can affect the health of people even far downwind. The health of people downwind of a wildfire, especially young children, the elderly, and people with lung disease or asthma, could be adversely affected. In addition, a major wildfire would be a threat to the health and safety of frontline firefighters.

During a major wildfire, emergency personnel, who are already spread thin in this rural area, would not be available to respond to other emergencies in their service area, potentially resulting in indirect impacts on health and property. Under the no action alternative there would be moderate to high adverse impacts on public health and safety.

Proposed Action

Under the proposed action, the herbicides imazapic, glyphosate, and clethodim would be applied to large areas of the Natural Area. As described in Section 4.9, these herbicides are not toxic to large mammals including humans (Durkin and Follansbee 2004, NPIC 2019, Durkin 2014). OPRD would post a notice at the campground alerting recreationists that herbicides are being applied. Herbicides would be applied from the ground and there would be no aerial spraying; therefore, closures of roads and trails would not be necessary. Potential effects related to herbicide application would be short-term, localized to the application area, and would have negligible effects on public health and safety.

Under the proposed action, the rehabilitation work and restoration of less flammable native plant communities would help to reduce the spread of wildfires and help strengthen the natural firebreak provided by Succor Creek. This would create a safer environment for firefighters and allow them to more easily control the spread of a wildfire. The proposed action would not prevent wildfires but could contribute to containment, reducing the intensity and frequency of wildfires, which would ultimately reduce the risk factor for people who use the Natural Area and those that live further away. In addition, the rehabilitation work around the campground would provide a buffer of less flammable plant communities around an area where fires are more likely to be ignited, which would allow time for firefighters to respond and contain a fire before it spreads very far. When wildfires are controlled more quickly, a smaller area is burned, less smoke is produced, and less sediment and debris may be transported downstream during future precipitation events that could potentially affect water quality. The proposed action could reduce

the probability that emergency services would be focused on firefighting and would allow emergency responders to remain available to respond to other emergencies throughout the County. The proposed action would have a beneficial effect on public health and safety.

4.15 Summary of Effects and Mitigation

Table 4.5 provides a summary of the potential environmental effects from implementation of the proposed action, any required agency coordination efforts or permits, and proposed mitigation and BMPs.

Table 4.5. Summary of Impacts and Mitigation

Affected Environmental Resource Area	Proposed Action Impacts	Agency Coordination / Permits	Mitigation/BMPs
Geology and Soils	Minor short-term impacts from soil erosion; Minor beneficial long-term effects.	N/A	ATVs would not be used on steep slopes.
Air Quality	Negligible impacts during implementation; long-term, minor beneficial effects.	N/A	ATV running times would be minimized and engines would be properly maintained.
Climate Change	Negligible impacts during implementation; minor beneficial long-term effects.	N/A	N/A
Water Quality	Negligible short-term impacts during implementation; beneficial long-term effects.	N/A	1. ATVs would not be fueled in or near watercourses. 2. ATVs would not be operated within the wetted perimeter of surface waters. 3. All herbicide applications would be consistent with label requirements and applied by licensed applicators. 4. Herbicides would not be applied when the wind speed exceeds 10 miles per hour. 5. Herbicide would not be applied if rain is projected within 24 hours. 6. Only herbicides that are approved for aquatic use would be applied within 25 feet of surface waters. 7. No fence construction would occur below the ordinary high-water mark; fence posts would span water courses.

Affected Environmental Resource Area	Proposed Action Impacts	Agency Coordination / Permits	Mitigation/BMPs
Wetlands	Negligible short-term impacts; minor, long-term beneficial effects.	N/A	1. BMPs for herbicide application as described under Water Quality. 2. No fill would be placed in wetlands.
Floodplains	Negligible impacts during implementation; minor, long-term beneficial effects.	N/A	BMPs for herbicide application as described under Water Quality.
Vegetation	Negligible impacts to native vegetation during implementation; long-term beneficial effects.	N/A	BMPs for herbicide application as described under Water Quality.
Fish and Wildlife	Negligible to minor short-term impacts; minor, long-term beneficial effects.	N/A	BMPs for herbicide application as described under Water Quality.
Threatened and Endangered Species	No effect on listed species.	N/A	BMPs for herbicide application as described under Water Quality.
Cultural Resources	No adverse effect.	SHPO	1. No work within 20 meters of sites recommended eligible or unevalulated. 2. Fence to be routed between pair of cairns.
Environmental Justice	No effect.	N/A	N/A
Hazardous Materials	Negligible to minor short-term impacts; no long-term effects.	N/A	1. BMPs for herbicide application as described under Water Quality. 2. Equipment would be kept in good condition.
Public Health and Safety	Negligible short-term impact; beneficial long-term effects.	N/A	1. BMPs for herbicide application as described under Water Quality. 2. Post notice warning of herbicide use in application areas.

SECTION 5 Cumulative Impacts

This section addresses the potential cumulative impacts associated with the implementation of the proposed action. Cumulative impacts under NEPA are defined as the impacts of a proposed action when combined with impacts of past, present, or reasonable foreseeable future actions undertaken by any agency or person. The Council of Environmental Quality's (CEQ) regulations for implementing NEPA require an assessment of cumulative effects during the decision-making process for federal projects. Cumulative impacts can result from individually minor but collectively significant actions.

BLM has previously implemented similar fuels reduction and stabilization projects on federal lands burned during the 2015 Soda Fire that are adjacent to the Succor Creek Natural Area, including herbicide application and reseeding of native grass species. In partnership with other affected landowners, BLM:

- Drill seeded 17,257 acres of BLM and State of Idaho land at sites with high soil erodibility factors.
- Completed 27,426 acres of aerial herbicide application (imazapic) for suppressing annual invasive grass germination for native plant release and seed bed preparation.
- Aerial seeded over 200,000 acres to rehabilitate areas impacted by fire suppression, increase perennial grass densities in areas impacted by invasive annual grasses, increase shrub and forb densities, and provide sage-grouse preferred forbs in and around lek areas (BLM 2016).

These projects were completed soon after the 2015 Soda fire and have resulted in a net beneficial effect by reducing invasive species and the risk of spread of a major wildfire in the area. It is not anticipated that there would be additional work on federal lands in the areas near Succor Creek Natural Area in the foreseeable future; however, those treatments in addition to treatments in Succor Creek Natural Area would create a large swath of land that would be better protected from the risks and effects of severe wildfires.

There are no other known cumulative projects in vicinity of the Succor Creek Natural Area. Currently, private lands in the area are grazed and some are cultivated in irrigated crops (south of Succor Creek). These activities are expected to continue into the foreseeable future.

Because the proposed action would have no or negligible impact on geology or soils, surface waters, wetlands, floodplains, threatened or endangered species, and environmental justice, the proposed action would not contribute to significant cumulative impacts on these resources.

Other invasive weed management activities would have the potential to compound with potential effects of the proposed ation with respect to air quality, vegetation, fish and wildlife, hazardous materials, and public health and safety. However, it is unlikely that there would be significant cumulative impacts because there has been a significant temporal and spatial separation between activities. Cumulative effects related to air quality and hazardous materials are not expected because of this temporal and spatial separation between potential projects. In addition, effects on

vegetation, fish and wildlife, and public health and safety are largely beneficial in the long term. Therefore, any potential cumulative effects would be beneficial.

SECTION 6 Agency Coordination, Public Involvement, and Permits

6.1 Agency Coordination

During preparation of this EA, the SHPO and the Burns Paiute Tribe, Confederated Tribes of the Umatilla Indian Reservation, Shoshone-Paiute Tribes of the Duck Valley Reservation, Shoshone-Bannock Tribes of the Fort Hall Reservation, and the Fort McDermitt Paiute and Shoshone Tribes of the Fort McDermitt Indian Reservation were consulted for comment. Consultation letters and responses are provided in Appendix B**.**

6.2 Public Participation

In accordance with NEPA, FEMA will release this Final EA to the public and resource agencies for a 30-day public review and comment period. Comments on this Draft EA will be incorporated into the Final EA, as appropriate. This Draft EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. If no substantive comments are received from the public and/or agency reviewers, this Draft EA will be assumed to be final and a FONSI will be issued by FEMA.

The public information process for the proposed project will include a public notice in the *Argus Observer*, the local general circulation newspaper that covers the city of Ontario, Oregon and surrounding area. The notice will invite the public to submit their comments about the proposed action, potential impacts, and proposed mitigation measures so that they may be considered and evaluated.

The public notice will state that information about the proposed action, including this Draft EA is available at https://www.oregon.gov/OPRD/NATRES/pages/index.aspx. The comment period will start when the public notice is published and extend for 30 days. At this time, a public meeting is not planned because the proposed action is not considered controversial.

Comments may be submitted to fema-r10-ehp-comments@fema.dhs.gov. Please include "Post Soda Fire" in your subject line. Comments may also be submitted via mail to:

FEMA Region 10
Attention: Deputy Regional Environmental Officer
130th 228th Street SW,
Bothell, WA 98021

6.3 Permits

No local, state, or federal permits appear to be necessary to implement the proposed Post Soda Fire Soils Stabilization and Rehabilitation Project.

SECTION 7 List of Preparers

The following is a list of preparers who contributed to the development of the Succor Creek – Post Soda Fire Final EA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others had significant roles and contributions as well, and their efforts were no less important to the development of this EA. These others include senior managers, administrative support personnel, and technical staff.

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Regel, Megan	Environmental Planner	NEPA Documentation
Austin, Bell	GIS Specialist	GIS
Foster, Malena	GIS Specialist	GIS
Stenberg, Kate Ph.D.	Senior Biologist, Senior Planner	Project Manager, Technical Review

Federal Emergency Management Agency

Reviewers	Role in Preparation
Gall, Barry	Technical Review and Approval
Kilner, Science	Technical Review
Eberlein, Mark	FEMA Region 10 Environmental Officer, Technical Review and Approval

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Appendices

Appendix A Endangered Species Act No Effect Determination

Appendix B Section 106 Consultation Letters

Appendix A Endangered Species Act
No Effect Determination

TECHNICAL MEMORANDUM

Date:	April 28, 2018
To:	Barry Gall, Federal Emergency Management Agency
From:	Sarah Sandstrom, Greg Johnston, Sam Payne
Project Number:	170837.2
Project Name:	Post Soda Fire Stabilization and Rehabilitation – 5102-4-R FMAG OR

Subject: No Effect ESA Documentation – Post Soda Fire Stabilization and Rehabilitation FMAG 5102-4-R

This memorandum describes the potential for federally-listed species and designated critical habitat to occur and be adversely affected by the Oregon Department of Parks and Recreation (ODPR) Post Soda Fire Stabilization and Rehabilitation Project (Project) in Malheur County, Oregon. Based on the analysis presented herein, there would be No Effect on any federally-listed species or designated critical habitat from the Project.

Project Description and Location

The project is located within the Succor Creek State Natural Area and nearby state-owned land tract known as Lonesome Willow (Figure 1). The project location is within the Succor Creek Sub-basin of the Columbia River Watershed (HUC 12-170501030904 and 12-170501030905). The Public Land Survey System (PLSS) location of the project is within Township 23 & 24 South, Range 47 East. Maps of the Project site boundaries are provided in Attachment 1.

According to ODPR, "the goal of the project is to facilitate the rehabilitation and protection of the native plant communities in the area burned by the Soda Fire within the Succor Creek State Natural Area. Healthy native plant communities reduce the likelihood of future high-intensity wildfires that degrade habitat and reduce preferred forage availability in rangelands."

The proposed action entails fuels reduction and restoration of native grasses on a maximum of 253 acres of the Succor Creek State Recreation Area and nearby Lonesome Willow tract, and includes the following elements:

- **Fast-burning fuels suppression** - Two applications of herbicide will be applied to remove invasive grasses from steep and previously-burned slopes where fire is difficult to

contain and can spread quickly. Herbicide will be applied either by all-terrain vehicle (ATV) or backpack sprayer, once in the spring, followed by once in late summer or fall. If necessary based on monitoring, hand weeding and spot-spraying of herbicide application will occur the following two years, in the spring and/or late summer/fall. The only herbicide that will be applied is Plateau™ (active ingredient imazapic) plus surfactant Grounded™, which was selected for effectiveness against non-native annual species including cheatgrass and medusahead. Imazapic is a selective herbicide that kills some annual and perennial grasses, including cheatgrass (Elseroad and Rudd 2011), by inhibiting the production of branched chain amino acids that are required for protein synthesis and cell growth. A study of its use in north-central Oregon found its effects on other annual plant species were highly variable (Elseroad and Rodd 2011). Herbicide will not be applied within 30 feet of sensitive habitat including riparian areas (stream terrace, banks, beds, and streamside sandy bluffs), cliffs, and volcanic ash/clay beds. Areas with rare plants would be raked to remove thatch, and invasive species would be hand-pulled in early and late spring. Herbicides would not be applied in these areas.

- **Restoration** – Herbicide-treated areas would be seeded with native grass species from an ATV. Seed mixes will be determined by the OPRD Botanist and Resource Specialist to maximize cover and diversity, though they may be influenced by availability. Native species being employed in other similar areas by the Bureau of Land Management (BLM) after the Soda Fire include 'Anatone' bluebunch wheatgrass, 'Sodar' streambank wheatgrass, 'Schwendimar thickspike wheatgrass, 'Sherman' big bluegrass, 'Joseph' Idaho fescue, 'Vavilov II' Siberian wheatgrass, 'Discovery' Snake River wheatgrass, 'Mountain Home' Sandberg's bluegrass, Bottlebrush squirreltail, 'Secar' Snake River wheatgrass, and 'Critana' thickspike wheatgrass. Seeds or plant plugs of the rare species would be hand planted in suitable areas to help augment current rare plant populations.

- **Fencing** - Approximately 8 miles of fence would be installed along the eastern perimeter of the Succor Creek Natural Area and Lonesome Willow Tract to prevent open-range cattle from grazing on treated and planted areas. Cattle also encourage the spread of non-native, invasive plants that may provide more fuel and otherwise be more flammable than native species. Minor ground disturbance may occur during fence post installation and from stretching wire between posts (depending on methods and equipment proposed and used). The fencing will be constructed from four strands of smooth braided wire, rather than barbed, allowing wildlife passage. Corner fence posts will be constructed out of rock gabion. Equipment required to transport materials will include trucks, ATV-type vehicles with trailers, and hand tools.

Action Area

The action area includes all areas that may be directly or indirectly affected by the proposed action. The outermost extent of the action area for terrestrial species has been determined based on the extent of noise disturbance and limit of biological effects from the exclusion of cattle in the park area.

Maximum terrestrial noise generated from equipment operation is expected to be approximately 82 dB measured 50 feet from the noise source. The 82 dB measurement was determined using a decibel escalator calculation based on the three loudest pierces of heavy equipment expected to be used during construction, including an ATV (79 dB based on average of tested models), flatbed truck (74 dB), and dump truck (76 dB) (WSDOT 2018; Martin 2005). Based on the logarithmic increase of decibel addition for this equipment, the combined output is anticipated to reach up to 82 dB should these three pieces of equipment be used simultaneously. The existing background noise level for the terrestrial area is anticipated to be approximately 35 dB, given a population density of less than 100 people per square mile (WSDOT 2018). Using these assumptions, airborne noise would attenuate to background levels approximately 3,793 feet (approximately 0.72 miles) from the project site, as seen in Figure 2.

Existing and Baseline Conditions

A site visit was completed to assess current site conditions by the Watershed Company fisheries biologist Greg Johnston and ecologist Sam Payne. The project area is located throughout portions of the Succor Creek State Natural Area and the Lonesome Willow Tract.

The Succor Creek State Natural Area is a state protected natural area that encompasses Succor Creek, canyons, and surrounding lands. Elevations range between approximately 2,500 and 4,050 feet above sea level.

The project is located within the Owyhee Uplands and Canyons zone of the Northern Basin and Range ecoregion, which is characterized by sagebrush steppe deep river canyons, barren lava fields, badlands, and tuffaceous outcrops (Thorson 2003). Plant communities identified within the action area include shrub-steppe, volcanic ash/clay bed, and riparian habitat.

Sagebrush steppe is the dominant plant community within the action area and surrounding ecoregion. Periodic wildfires have transformed much of this area into grasslands. Generally, the unburned areas have a greater density of sagebrush and other shrub forming species. Conversely, the recently-burned areas are dominated by a mix of native and non-native grasses and forbs. Cheatgrass and medusahead are the most abundant species site-wide,

both of which are noxious weeds that perpetuate wildfires, contributing to increased loss of shrub steppe habitat.

Volcanic ash and clay beds are interspersed throughout the action area and provide habitat for a specialized niche plant community, host to a variety of rare plant species. Vegetative cover is relatively low in these areas, as few plants can tolerate the harsh conditions. Noxious weeds are encroaching into the volcanic ash/clay beds and alter the ecosystem by generating new soils (when decayed), that threaten rare native plants. Some of the rare species known to occur in the action area include smooth mentzelia (*Mentzelia mollis*), Owyhee clover (*Trifolium owyheense*), and sterile milkvetch (*Astragalus cusickii* var. *sterilis*); none of which are federally listed.

A few small tributaries connect with Succor Creek within the action area, including Trimbly Creek and other unnamed streams. Wetlands associated with stream hydrology were identified surrounding Succor Creek and tributaries. Succor Creek is lined by a forested strip of primarily white alder (*Alnus rhombifolia*) and Pacific willow (*Salix lucida*) that extends throughout much of the reach within the Succor Creek State Natural Area (Attachment C – Photo 1). The Trimbly Creek riparian area is primarily dominated by shrubs and herbaceous species. Shrub- and cattail-dominated wetlands were noted near the campground area east of Succor Creek.

Watercourses within the action area are within a portion of the Snake River watershed where access by anadromous fish is anthropogenically blocked at Hells Canyon (NOAA 2017, USFWS 2002b). According to Oregon Department of Fish and Wildlife geodatabases, native redband trout are present in Succor Creek.

There is currently no fencing in place to prevent cattle from crossing into Succor Creek State Natural Area from the neighboring Bureau for Land Management (BLM) rangeland. Cattle are common in the project area.

Listed Species

A list of federally-listed species with the potential to occur in the action area is provided in Table 1 below. The list is based on a search of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) on-line database (Attachment B – IPaC List), a review of ESA listings and critical habitat designations from the National Marine Fisheries Society (NMFS), a review of listed plant species identified by Oregon as occurring within Malheur County, and a review of spatial data from Oregon Biodiversity Information Center (ORBIC).

IPaC does not identify any federally listed species within the action area. Additionally, the fish migration barrier located downstream at the Hells Canyon Dam complex prevents listed anadromous salmonids from entering Succor Creek and tributaries in the action area. Therefore, no NMFS-regulated, ESA-listed species are present within the action area (NOAA 2016).

The Oregon Department of Agriculture (ODA) Native Plant Conservation Program identifies the federally-listed Howell's spectacular thelypody (*Thelypodium howellii* ssp. *spectabilis*) as occurring within Malheur County. An effect determination for this listed species is provided below and was based on the habitat present, as determined by visual observation of aerial and ground-level photography, field visits to individual sites within the project area (Attachment C – Site Photos), information on the life history and distribution of this species identified in the federal database, and the proposed work.

Species Information, Site Use, and Impacts

The federally threatened plant species, Howell's spectacular thelypody (*Thelypodium howellii* spp. *spectabilis*) occurs in the Willow Creek Valley within Malheur County. Howell's spectacular thelypody is a rare biennial herbaceous plant that only grows in a relatively small geographic area in Union, Baker, and Malheur Counties, Oregon (ODA n.d.). It is found in moist alkaline meadows within the elevation range of 3,000-3,500 feet. Usually with other salt-tolerant plants, it normally occurs in areas adjacent to streams that experience springtime flooding. Typically, it grows in soils which are fine, pluvial-deposited alkaline clay mixed with recent alluvial salts (USFWS 2002a).

ORBIC maps the nearest known location of Howell's spectacular thelypody as approximately 60 miles northwest from the project area. The ODA also identifies Willow Creek Valley (40 miles north of the action area) in Malheur County as supporting a population of Howell's spectacular thelypody. Although elevations within the range of Howell's spectacular thelypody occur within the action area, salt-tolerant plant associations within wet meadows were not identified along Succor Creek or its tributaries within the action area during the site visit. Tributaries within the action area are steep, without adjoining bench or meadow areas, moist or otherwise.

Imazapic is a selective herbicide that affects many broad leaf weeds and some grasses, including invasive species found within the treatment areas. Former ESA consultations regarding imazapic herbicides have concluded that use will have no effect on ESA-listed plant species, including a Bureau of Land Management Biological Assessment regarding the

management of pesticides in 17 western states including Oregon with respect to aerial drift and runoff from imazapic (BLM 2005).

Since there is no known current or historic presence of Howell's spectacular thelypody in this action area, the plant's range is highly restricted and specialized, salt-tolerant plant associations and wet meadows are not present within the Action Area, and imazapic use with provided avoidance measures is not documented to have an effect on federally-listed plants in Oregon, the project will have **no effect on Howell's spectacular thelypody**.

Table 1: Federally Listed Species with Potential to Occur in the Project Vicinity.

Species	Status	Habitat Requirements	Effect Determination
Howell's spectacular thelypody *Thelypodium howellii* spp. *spectabilis*	FT	Habitat types include moist alkaline meadow habitats within the elevation range of 3,000-3,500 feet. Occurs in fine pluvial-deposited alkaline clay mixed with recent alluvial salts, typically located adjacent to streams that experience spring flooding. The nearest known range in Malheur County is limited to the Willow Creek Valley, 40 miles to the north.	No Effect. No suitable habitat present.

Source: IPaC accessed 2/2/2018; U.S. Fish and Wildlife Service Threatened and Endangered species accessed 2/2/2018.
FE – Federal Endangered
FT – Federal Threatened
Additional Federal Protections
*MBTA - National Migratory Bird Treaty Act

Avoidance Measures

- Herbicide will be applied by a hand sprayer or by ATV rather than from aerial broadcast.
- Herbicide is limited to a type that will result in minimal impact to native species.
- Herbicide application will be limited to no closer than 30 feet from any aquatic areas including streams and wetlands; or from volcanic ash/clay beds.
- No herbicide will be applied to volcanic ash/clay beds. Weed maintenance in these locations will be done by hand.
- Fence will be constructed out of four strands of smooth braided wire rather than barbed to allow for wildlife passage.

Critical Habitat

Figure 3 shows the nearest designated and proposed critical habitat for federally listed species in the project vicinity. The nearest designated habitat is for bull trout (*Salvelinus confluentus*), located approximately 60 miles northwest of the project area. The nearest proposed critical habitat is for slickspot peppergrass (*Lepidium papillferum*), located approximately 28 miles east and northeast from the project area. Therefore the project will have **no effect on proposed or designated critical habitat**.

Migratory Birds

It should be noted that migratory birds may be present in the Project area. In compliance with the Migratory Bird Treaty Act (MBTA), measures must be taken to avoid disturbance of birds and active bird nests. In general the proposed project activities are not expected to impact migratory birds or their nests. If an active bird nest is found, work should be delayed until the nest is no longer active, or other measures are implemented in coordination with appropriate resource agencies.

Sensitive Habitats

The Project areas are located near riverine areas that may support wetlands (Succor Creek and tributaries). Best management practices consistent with Oregon State requirements for pesticide use would be implemented to prevent impacts from the herbicide use, including implementation of 30-foot buffers from sensitive areas. Therefore, there would be no effect on sensitive habitats.

Essential Fish Habitat

Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) Essential Fish Habitat (EFH) is defined as, “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” The Pacific Fisheries Management Council (PFMC) has designated EFH for the Pacific salmon fishery, federally managed ground fishes, and coastal pelagic fisheries. The action area does not include any marine areas. Therefore, ground fish and coastal pelagic are not present in the action area.

The Pacific salmon management unit includes Chinook, coho, and pink salmon. Since an anthropogenic total fish migration barrier (Hells Canyon Dam Complex) is present downstream of the project area, no anadromous salmonids are present within stream segments in the action area. However, the MSA requires that anthropogenically blocked fish habitat be assessed because it may be opened up to use by salmon species in the future. Coho and Chinook salmon could potentially reach Succor Creek and its fish-accessible tributaries if fish passage barriers were removed along the Snake River. Since EFH may have

historically been present in the action area along Succor Creek or its tributaries prior to placement of the barrier, impact-avoidance measures for the project are included. Minimization measures include avoiding all in-water work, buffering herbicide application from streams and wetlands, and limiting project activities away from the stream channels. Temporary impacts from the project will have no effect on EFH, since no EFH species would be present for at least many years following project activities. Long-term effects of the project on EFH could include reduced fire frequency resulting from control of non-native grasses. This could benefit stream habitat conditions by reducing fine sediment delivery to the streams. Additionally, long-term effects could include improved bank stability and channel complexity resulting from livestock exclusion from the action area. Therefore the project will not adversely affect EFH for ground fish, coastal pelagics, or Pacific salmonids.

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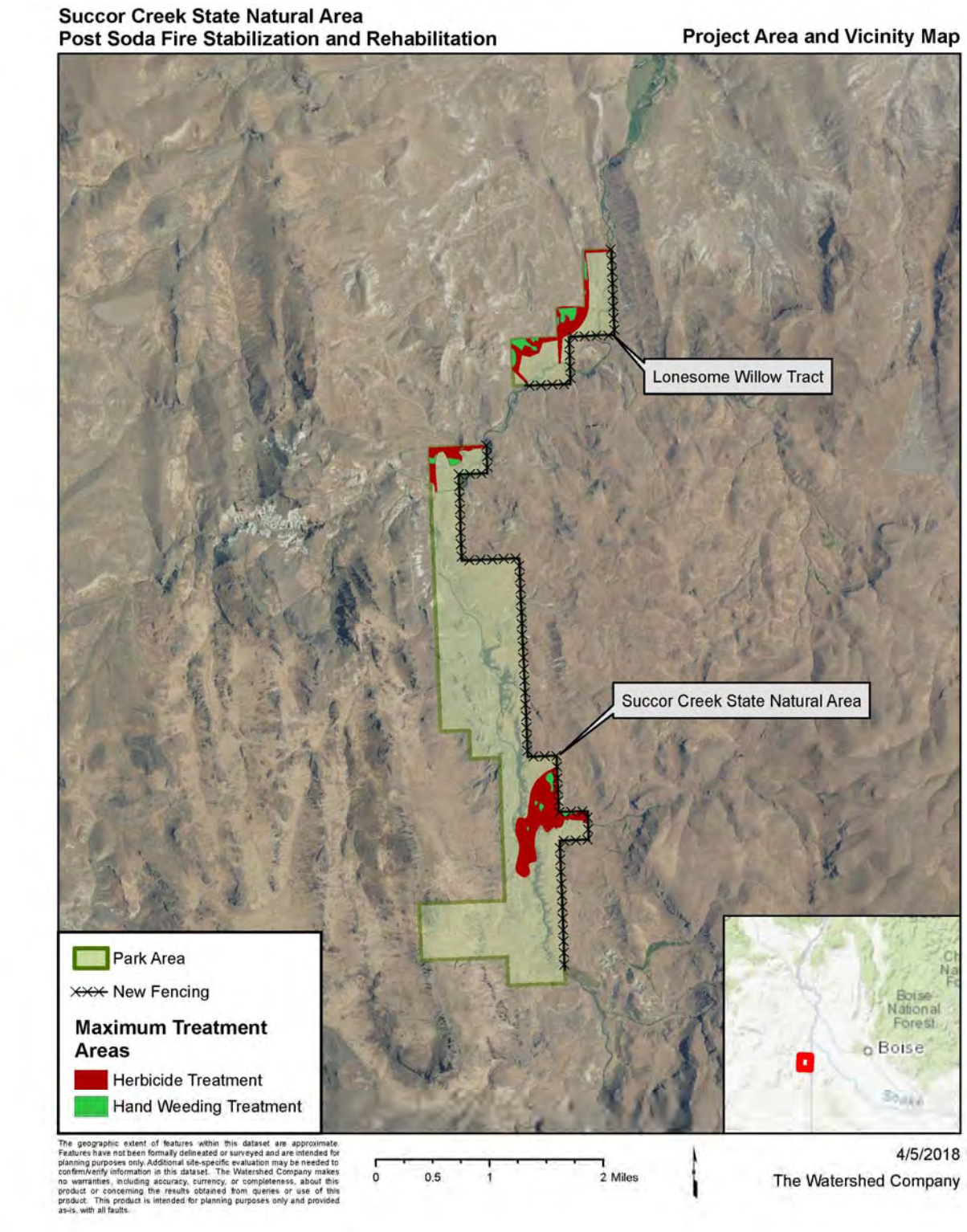


Figure 1. Project Area

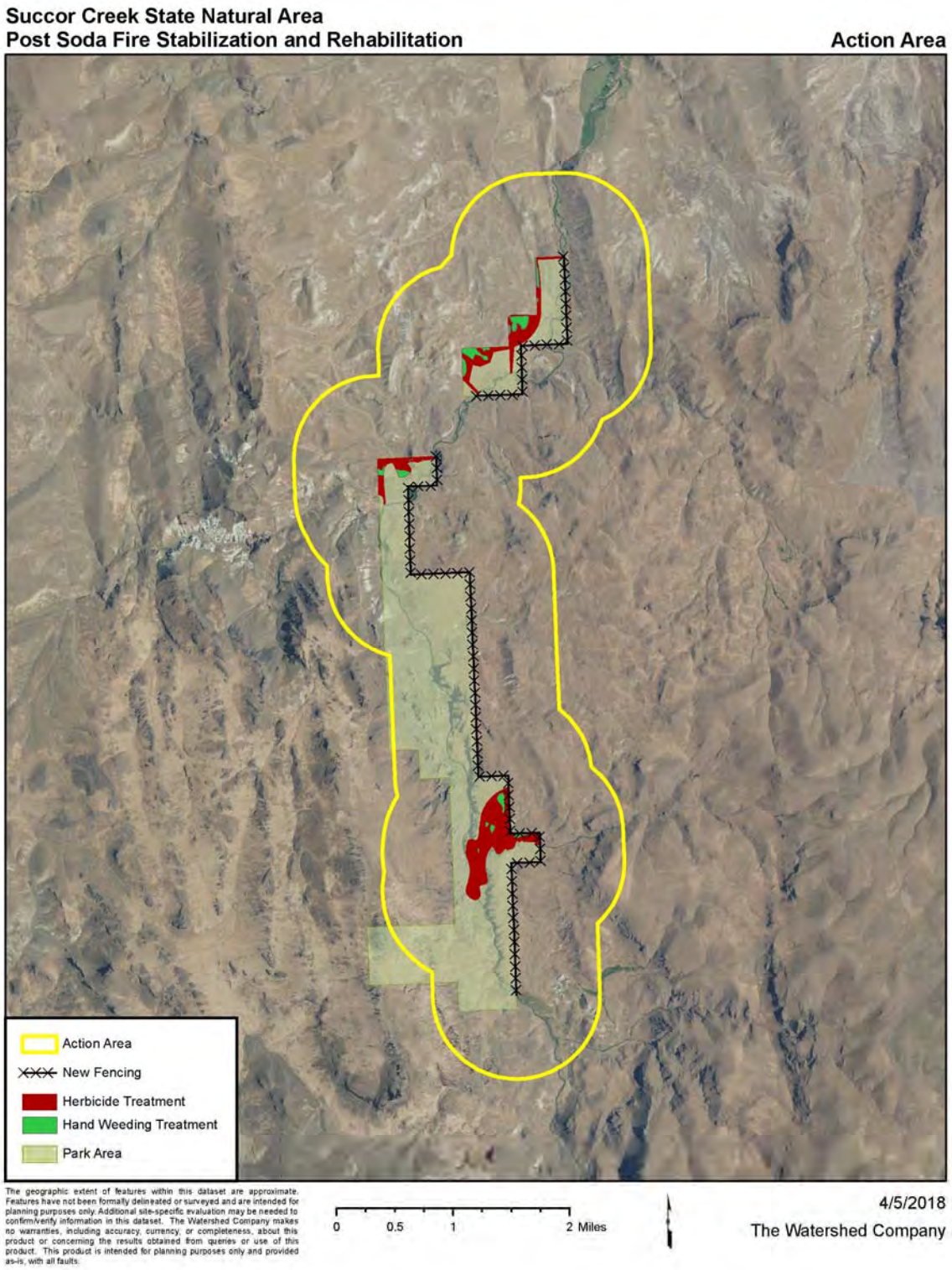


Figure 2. Action Area

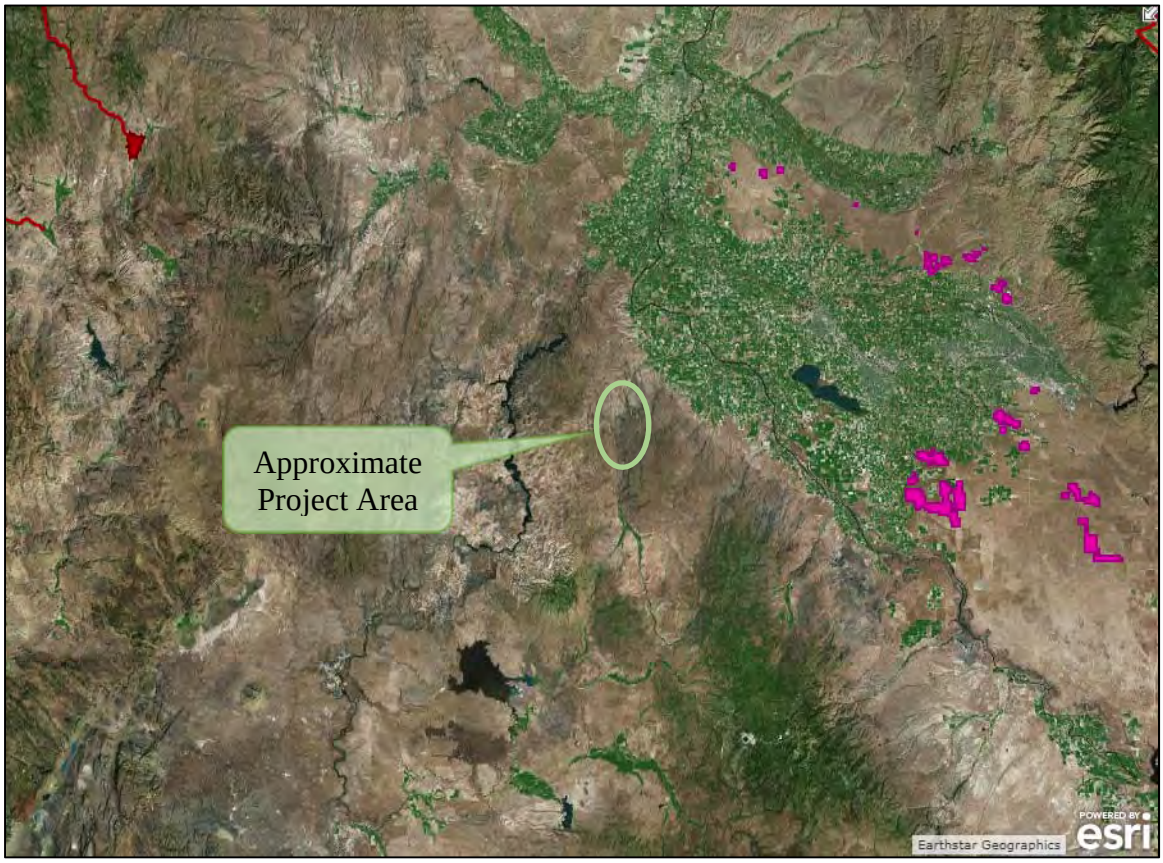


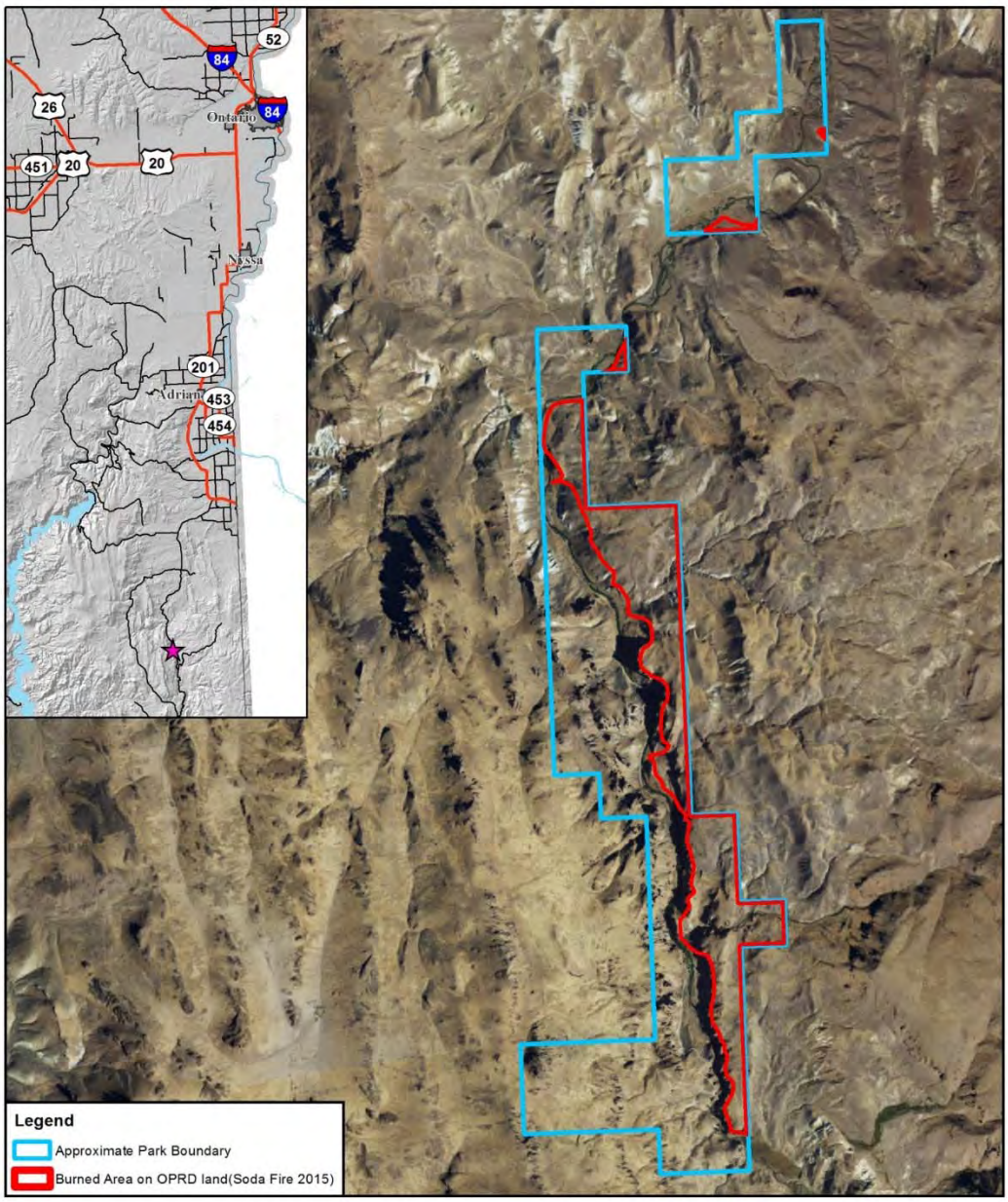
Figure 3. Screenshot from USFWS Critical Habitat for Threatened and Endangered Species Online Mapper. Red features are designated critical habitat and pink polygons are proposed critical habitat.

Attachment A: Project Site Maps

750 Sixth Street South | Kirkland, WA 98033
p 425.822.5242 | f 425.827.8136 | watershedco.com

Succor Creek State Natural Area
Soda Fire Rehab 2015
Vicinity Map

Oregon Parks & Recreation Dept.
725 Summer St. NE, Suite C
Salem OR, 97301



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

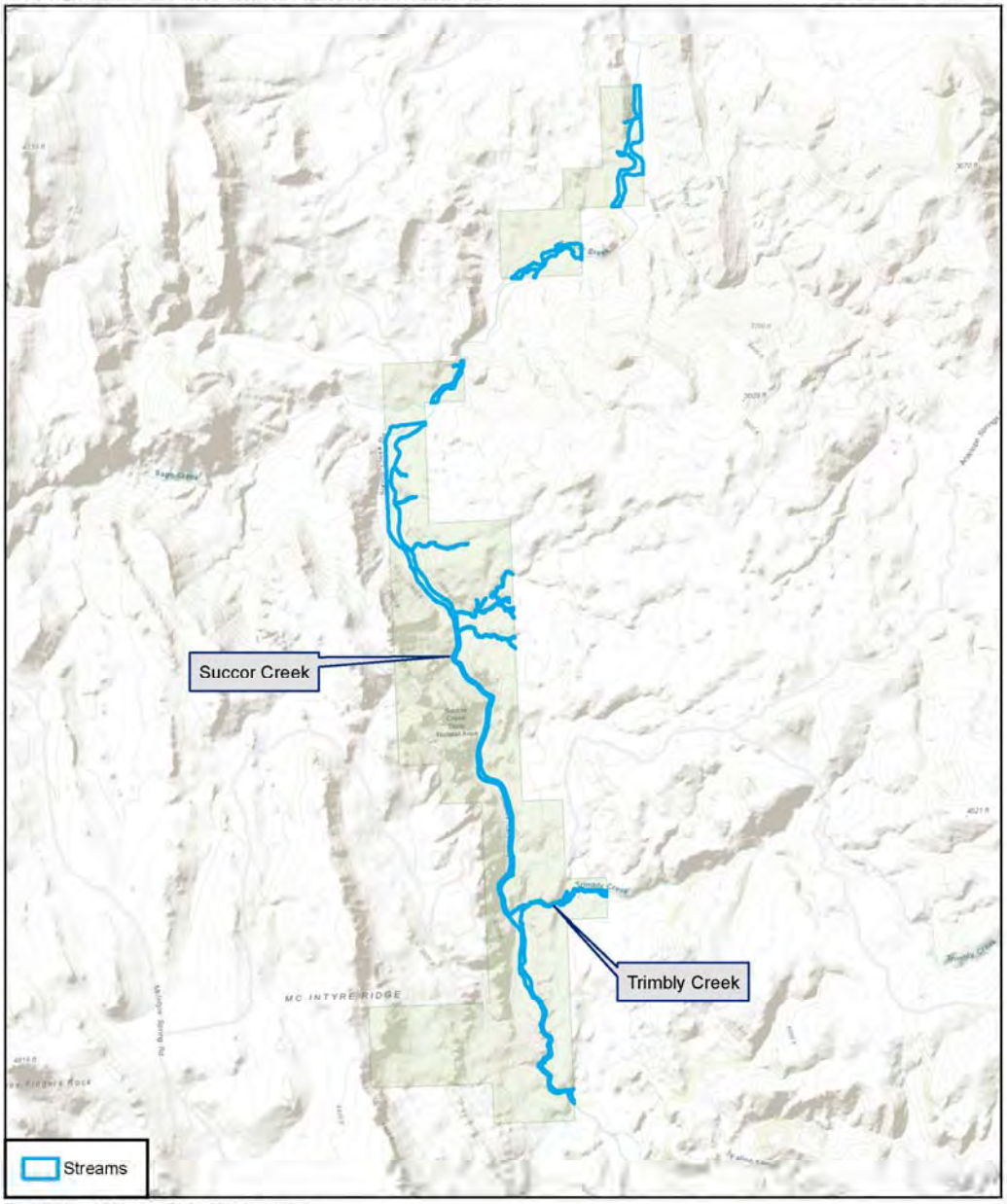
0 1,900 3,800 Feet

NAD 1983 2011 Oregon Statewide Lambert Ft Intl

NMOB-02855 10/15/2015
E:10/15/2015
P:never
C:\Users\BachelN\Documents\succor2015.mxd

Succor Creek State Natural Area
Post Soda Fire Stabilization and Rehabilitation

Stream Locations



The geographic extent of features within this dataset are approximate. Features have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/verify information in this dataset. The Watershed Company makes no warranties, including accuracy, currency, or completeness, about this product or concerning the results obtained from queries or use of this product. This product is intended for planning purposes only and provided as-is, with all faults.

0 0.5 1 2 Miles

4/5/2018
The Watershed Company

Attachment 6

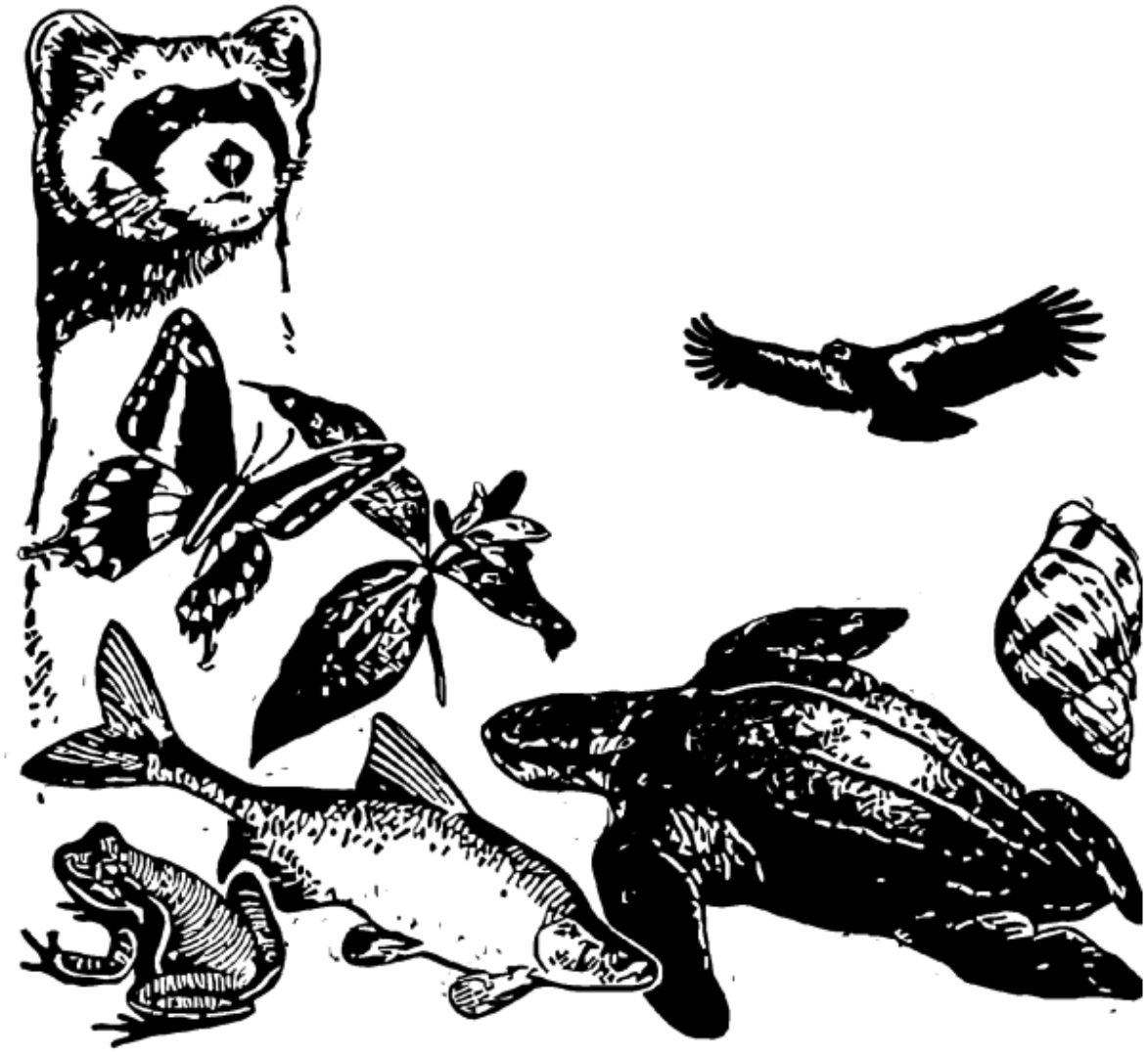
U.S. Fish & Wildlife Service

Succor Creek Weed Management

IPaC Trust Resources Report

Generated March 25, 2016 08:43 AM MDT, IPaC v3.0.0

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

Succor Creek Weed Management

LOCATION

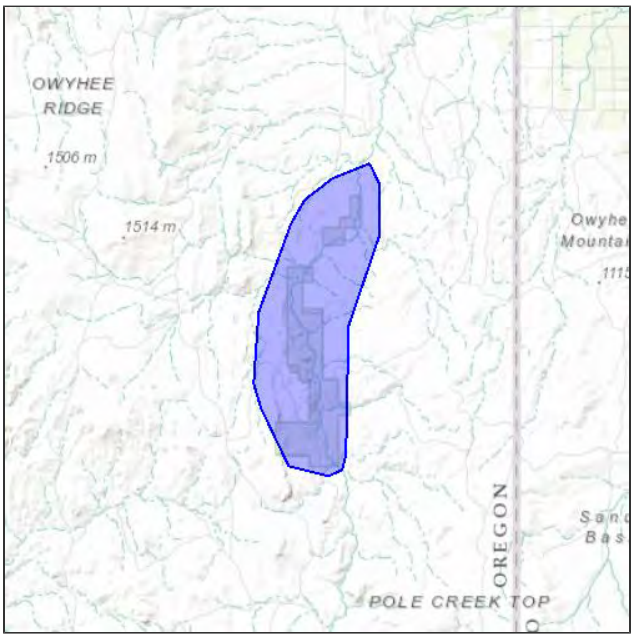
Malheur County, Oregon

DESCRIPTION

Post-wildfire weed management and restoration

IPAC LINK

https://ecos.fws.gov/ipac/project/IQ2TJ-HJORV-HFLOS-2VHMQ-UZR2MI



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
(503) 231-6179

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

There are no endangered species in this location

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

---

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black Rosy-finch Leucosticte atrata — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0J4

Brewer's Sparrow Spizella breweri — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HA

Calliope Hummingbird Stellula calliope — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0K3

Cassin's Finch Carpodacus cassinii — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0J6

Eared Grebe Podiceps nigricollis — Bird of conservation concern
Season: Breeding

Ferruginous Hawk Buteo regalis — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06X

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Breeding

Greater Sage-grouse Centrocercus urophasianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06W

Green-tailed Towhee Pipilo chlorurus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0IO

Lewis's Woodpecker Melanerpes lewis — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HQ

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Long-billed Curlew Numenius americanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06S

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Rufous Hummingbird selasphorus rufus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0E1

Sage Thrasher Oreoscoptes montanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0ID

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Swainson's Hawk Buteo swainsoni — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070

Western Grebe aechmophorus occidentalis — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

Willow Flycatcher Empidonax traillii — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

Freshwater Emergent Wetland

PEMC	25.9 acres
PEM/USA	3.66 acres
PEMB	3.62 acres
PEMA	1.04 acres

Freshwater Forested/shrub Wetland

PFOA	3.39 acres
PSSA	3.09 acres
PSSC	1.94 acres
PSSB	0.802 acre

Freshwater Pond

PUSCh	0.973 acre

Riverine

R3UBH	89.6 acres
R3USA	48.2 acres
R3USC	47.6 acres
R4SBC	16.0 acres
R4SBA	10.5 acres

A full description for each wetland code can be found at the National Wetlands Inventory website: http://107.20.228.18/decoders/wetlands.aspx

Photo 1. Succor Creek

Photo 2. Sagebrush steppe habitat in foreground, Succor Creek riparian area in background.

Photo 3. Close up of a volcanic ash / clay bed sediment.

Photo 4. Volcanic ash / clay bed.

Photo 5. Burned shrubs in foreground.

Photo 6. Succor Creek tributary, Trimbly Creek.

Photo 7. Native bunchgrasses in foreground.

Photo 8. Invasive medusahead grass.

Photo 9. Dirt drive through the southern treatment area.

Photo 10. Native bunchgrass in the background where cattle are less likely to graze.

Photo 11. Trimbly Creek

Photo 12. Succor Creek riparian area, including associated wetlands.

Photo 13. Northern treatment area.

Photo 14. Northern treatment area.

Appendix B Section 106 Consultation Letters

U.S. Department of Homeland Security
Region X
130 228th Street, SW
Bothell, WA 98021

FEMA

June 12, 2018

Honorable Eric Hawley
Burns Paiute Tribe
100 Pasigo Street
Burns, Oregon, 97720-2442

RE: Post Soda Fire Rehabilitation and Stabilization, Malheur County, Oregon
FEMA-FMAG-HMGP-FM-5102-4-R

Dear Chairman Hawley:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to fund the Oregon Parks and Recreation Department (OPRD), through the Oregon Office of Emergency Management (OEM) for a post-fire rehabilitation project at OPRD's Succor Creek State Natural Area (Succor Creek SNA) in Malheur County, Oregon County (Undertaking). This funding is available from FEMA's Fire Mitigation Assistance Grant Program (FMAG) through the Hazard Mitigation Grant Program (HMGP) under the Fire Management Disaster Declaration FM-5102-OR. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act (NHPA), as amended.

Proposed Undertaking

The proposed Undertaking will address three locations at the Succor Creek SNA as delineated on the enclosed maps. The project consists of removal of non-native grasses and forbs with herbicides and hand tools and revegetation by seeding with native grasses and herbaceous plants of approximately 90 acres of OPRD lands burned in the 2015 Soda Fire. In addition, approximately 8 miles of fence would be constructed to minimize or eliminate grazing by cattle that would reintroduce non-native grasses. The revegetation acres are all on OPRD land. The proposed fence is bounded on the west by OPRD land and on the east by USDI Bureau of Land Management (BLM) land. The project would be managed entirely by OPRD.

Area of Potential Effects

The Area of Potential Effects (APE) for the project, which includes all potential staging areas and work areas, are delineated on the attached Figures 1-4.

Historic Property Identification and Evaluation

FEMA's contractor, Willamette CRA, will be conducting systematic pedestrian surveys of all project locations. As appropriate, the pedestrian survey will include subsurface exploratory probes, which would be undertaken under provisions of a State of Oregon Archaeological Excavation Permit on

OPRD land. Survey for the planned fence line will require limited survey on BLM land, which would be conducted under provisions of an Archaeological Resources and Protection Act (ARPA) permit.

FEMA welcomes any information the Tribe is able to provide regarding historic properties of religious and or cultural significance that may be affected by the undertaking and assist with these identification efforts, as well as any comments you have on the proposed APE. Any information shared would be subject to Tribe-requested dissemination restrictions.

Upon completion of the archaeological investigation, FEMA will review the results and provide the Tribe an opportunity to comment on findings. Should you have any questions, please contact Barry Gall at 425-487-4714 or Barry.Gall@fema.dhs.gov. Thank you.

Sincerely,

MARK G EBERLEIN

Digitally signed by MARK G EBERLEIN
Date: 2018.06.12 12:02:08 -07'00'

Mark G. Eberlein
Regional Environmental Officer

Enclosures

CC: Diane Teeman, Cultural Resources (via email)

U.S. Department of Homeland Security
Region X
130 228th Street, SW
Bothell, WA 98021

FEMA

June 12, 2018

Honorable Gary Burke
Confederated Tribes of the Umatilla Indian Reservation
Nixyaawii Governance Center
46411 Ti'míne Way
Pendleton, Oregon, 97801-0638

RE: Post Soda Fire Rehabilitation and Stabilization, Malheur County, Oregon
FEMA-FMAG-HMGP-FM-5102-4-R

Dear Chairman Burke:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to fund the Oregon Parks and Recreation Department (OPRD), through the Oregon Office of Emergency Management (OEM) for a post-fire rehabilitation project at OPRD's Succor Creek State Natural Area (Succor Creek SNA) in Malheur County, Oregon County (Undertaking). This funding is available from FEMA's Fire Mitigation Assistance Grant Program (FMAG) through the Hazard Mitigation Grant Program (HMGP) under the Fire Management Disaster Declaration FM-5102-OR. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act (NHPA), as amended.

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Sincerely,

MARK G EBERLEIN

Digitally signed by MARK G EBERLEIN
Date: 2018.06.12 12:08:37 -07'00'

Mark G. Eberlein
Regional Environmental Officer

Enclosures

CC: Carey Miller, Tribal Historic Preservation Officer (via email)

U.S. Department of Homeland Security
Region X
130 228th Street, SW
Bothell, WA 98021

FEMA

June 12, 2018

Honorable Theodore Howard
Shoshone-Paiute Tribes of the Duck Valley Reservation
P.O. Box 219
Owyhee, Nevada 89832

RE: Post Soda Fire Rehabilitation and Stabilization, Malheur County, Oregon
FEMA-FMAG-HMGP-FM-5102-4-R

Dear Chairman Howard:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to fund the Oregon Parks and Recreation Department (OPRD), through the Oregon Office of Emergency Management (OEM) for a post-fire rehabilitation project at OPRD's Succor Creek State Natural Area (Succor Creek SNA) in Malheur County, Oregon County (Undertaking). This funding is available from FEMA's Fire Mitigation Assistance Grant Program (FMAG) through the Hazard Mitigation Grant Program (HMGP) under the Fire Management Disaster Declaration FM-5102-OR. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act (NHPA), as amended.

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Sincerely,

MARK G EBERLEIN

Digitally signed by MARK G EBERLEIN
Date: 2018.06.12 11:58:07 -07'00'

Mark G. Eberlein
Regional Environmental Officer

Enclosures

CC: Lynneil Brady, Acting Cultural Resources Director (via email)

U.S. Department of Homeland Security
Region X
130 228th Street, SW
Bothell, WA 98021

FEMA

June 12, 2018

Honorable Bradley Crutcher
Fort McDermitt Paiute and
Shoshone Tribes of the Fort McDermitt Indian Reservation
P.O. Box 457
McDermitt, Nevada 89421

RE: Post Soda Fire Rehabilitation and Stabilization, Malheur County, Oregon
FEMA-FMAG-HMGP-FM-5102-4-R

Dear Chairman Crutcher:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to fund the Oregon Parks and Recreation Department (OPRD), through the Oregon Office of Emergency Management (OEM) for a post-fire rehabilitation project at OPRD's Succor Creek State Natural Area (Succor Creek SNA) in Malheur County, Oregon County (Undertaking). This funding is available from FEMA's Fire Mitigation Assistance Grant Program (FMAG) through the Hazard Mitigation Grant Program (HMGP) under the Fire Management Disaster Declaration FM-5102-OR. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act (NHPA), as amended.

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Sincerely,

MARK G EBERLEIN

Digitally signed by MARK G EBERLEIN
Date: 2018.06.12 12:04:59 -07'00'

Mark G. Eberlein
Regional Environmental Officer

Enclosures

U.S. Department of Homeland Security
Region X
130 228th Street, SW
Bothell, WA 98021

FEMA

June 12, 2018

Honorable Nathan Small
Shoshone-Bannock Tribes of the Fort Hall Reservation
P.O. Box 306
Fort Hall, Idaho 83203-0306

RE: Post Soda Fire Rehabilitation and Stabilization, Malheur County, Oregon
FEMA-FMAG-HMGP-FM-5102-4-R

Dear Chairman Small:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to fund the Oregon Parks and Recreation Department (OPRD), through the Oregon Office of Emergency Management (OEM) for a post-fire rehabilitation project at OPRD's Succor Creek State Natural Area (Succor Creek SNA) in Malheur County, Oregon County (Undertaking). This funding is available from FEMA's Fire Mitigation Assistance Grant Program (FMAG) through the Hazard Mitigation Grant Program (HMGP) under the Fire Management Disaster Declaration FM-5102-OR. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act (NHPA), as amended.

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Sincerely,

MARK G EBERLEIN

Digitally signed by MARK G EBERLEIN
Date: 2018.06.12 12:11:14 -07'00'

Mark G. Eberlein
Regional Environmental Officer

Enclosures

CC: Carolyn Smith, Cultural Resources Coordinator (via email)