Draft Supplemental Environmental Assessment

Tule River Tribe Fuels Reduction Project

HMGP 5205-001-001

Tulare County, California

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FEMA

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Acronyms

APE	Area of Potential Effect
BIA	Bureau of Indian Affairs
BMP	Best Management Practice
Cal OES	California Governor's Office of Emergency Services
CBI	Conservation Biology Institute
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CRHR	California Register of Historical Resources
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EO	Executive Order
ESA	Endangered Species Act
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
GPS	Global Positioning System
HMGP	Hazard Mitigation Grant Program
IPaC	Information for Planning and Consultation

MBTA	Migratory Bird Treaty Act
NAHC	Native American Heritage Commission
NAVD88	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_X	nitrogen oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	ozone
PBO	Programmatic Biological Opinion
PEA	Programmatic Environmental Assessment
PM	particulate matter
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Officer
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound

1. Introduction

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide federal financial assistance to the Tule River Indian Tribe (Tribe or Subapplicant), through the California Governor's Office of Emergency Services (Cal OES or Applicant), for a wildfire mitigation project. The project would be funded under FEMA's Hazard Mitigation Grant Program (HMGP). The Tribe is proposing to address and mitigate the impacts of the Pier Fire (2017) and reduce wildfire hazards resulting from high levels of forest insect activity because of recent droughts on the Tule River Indian Tribe Reservation (Proposed Action), in Tulare County, California. The project area includes more than 2,392 acres on the Reservation, of which 1,181 acres are in the Pier Fire burn area and 1,154 acres are in unburned areas adjacent to the burn area where wildfire hazards are high. The latitude and longitude coordinates at the center of the project area are 36.089696, -118.678097.

1.1. Scope of Document

This Supplemental Environmental Assessment (SEA) evaluates the potential environmental impacts of the Proposed Action. Some activities included in the Proposed Action were previously evaluated in FEMA's December 2014 *Final Programmatic Environmental Assessment for Recurring Actions in Arizona, California, and Nevada* (PEA) and the March 2019 *Supplemental Environmental Assessment to the Final Programmatic Environmental Assessment for Recurring Activities in Arizona, California, and Nevada* to the Proposed Action. According to PEA Section 1.8, *Using the Programmatic Environmental Assessment,* "If an action is expected to (1) result in impacts not described in the PEA, (2) result in impacts greater in magnitude, extent, or duration than those described in the PEA, or (3) require additional environmental mitigation measures than those described in this PEA, an SEA would be prepared."

Some of the Proposed Action activities and best management practices (BMPs) do not fall within the range of actions evaluated in the PEA. The PEA does not address post-fire activities, which were added as eligible activities to the HMGP after the PEA was published, including revegetation by seeding or by planting seedlings with mechanical equipment. Seeding is mentioned as a BMP in the PEA, but not as an authorized activity. The PEA does not address contour felling for soil erosion control following a wildfire; it is not an evaluated activity nor is it a BMP under the PEA. The PEA does not address potential impacts from the use of large burn piles and burn piles with large material (greater than 8 inches in diameter). While most of the burn piles proposed are expected to be small piles (defined in Section 2.2.3), there may be a few that would be considered large or that would incorporate larger material. These impacts have become better understood with the increase in large wildfires and hazardous fuels reduction activities on lands across the West in recent years. The PEA does not allow the use of the herbicide Milestone™ within 200 feet of waterways, even though it is approved by the U.S. Environmental Protection Agency (EPA) for use up to the edge of waterbodies. The PEA requires the use of glyphosate-based herbicides between 200 and 50 feet of waterbodies,

even though the glyphosates are now undergoing a registration review by EPA for ecological impacts (EPA 2023a).

The Proposed Action would result in impacts not described in the PEA and require additional environmental mitigation measures to minimize those impacts. This SEA evaluates those impacts and discloses the potential impacts of the Proposed Action that have not been previously described in the PEA for public review.

This SEA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality regulations to implement NEPA (40 Code of Federal Regulations Parts 1500 to 1508), U.S. Department of Homeland Security Instruction 023-01-001, and FEMA Instruction 108-01-1, NEPA implementing procedures. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this SEA is to analyze the potential environmental impacts of the Proposed Action. FEMA will use the findings in this SEA to determine whether to prepare an environmental impact statement or to issue a Finding of No Significant Impact (FONSI).

1.2. Purpose and Need for the Action

The purpose of the FEMA HMGP is to provide funding to state, local, tribal, and territorial governments to implement projects that reduce or permanently eliminate future risk to lives and property from natural hazards before and during the recovery from a federally declared disaster. The purpose of the Proposed Action is to reduce hazards related to erosion and wildfire on the Tule River Indian Tribe Reservation.

The project area is in steep and rugged terrain that is prone to erosion and susceptible to wildfire. Prior to the Pier Fire, the forest on the Tule River Reservation had experienced high levels of insect activity that coincided with severe drought conditions, leading to the highest tree mortality in the state. The Pier Fire burn area encompassed 1,181 acres of the project area. Another 1,154 acres of the project area are in unburned areas adjacent to the burn area where wildfire hazards are high due to the large number of standing dead trees that have resulted from drought and insect stresses. The burned areas are susceptible to invasion by non-native, invasive, noxious species that contribute to wildfire risk. Areas with a high proportion of invasive species also tend to be more susceptible to erosion. Therefore, there is a need to reduce hazardous fuels and manage the land to reduce erosion on burned areas.

The 2017 Pier Fire burned 36,556 acres in the Sequoia National Forest, in California, including approximately 8,800 acres within the Tule River Indian Tribe Reservation. The loss of vegetation from the wildfire and drought and insect damage combined with the spread of invasive species has led to an increased risk of erosion. These areas also experience greater runoff volumes because the vegetation that would capture rainfall or hold snow melt is gone. The greater runoff volumes can result in downstream flooding as well as increased erosion. The increased runoff and erosion have plugged and damaged many culverts, and the changed landscape has resulted in the need for additional culverts in some places to protect existing road networks.

2. Description of the Proposed Action and Alternatives

2.1. No Action Alternative

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

2.2. Proposed Action

The Proposed Action would conduct hazardous fuels reduction and post-fire mitigation on more than 2,392 acres on the Tule River Indian Reservation; approximately 1,181 acres of the project area are in the Pier Fire burn area, and 1,154 acres are in unburned areas adjacent to the burn area where wildfire hazards are high. The Proposed Action would remove standing dead trees and other hazardous fuels, which include flammable vegetation that supports the spread of wildfires such as invasive species or creates hazardous conditions when it burns such as ladder fuels that can allow a fire to climb up into the crowns of trees. The Proposed Action would also implement erosion control measures to reduce the risk of erosion and sedimentation into adjacent watercourses, repair damaged roads and culverts, and install new culverts to protect roads from the increased stormwater runoff that occurs following a fire.

The following proposed activities are included in the PEA and thus the effects of these activities are not evaluated further in this SEA:

- Removing standing dead trees that pose a danger
- Planting seedlings of indigenous (e.g., native species endemic to an area) species
- Vegetative fuels reduction
- Disposing of slash through a combination of chipping or lopping and scattering
- Reducing ladder fuels
- Regrading damaged roads
- Installing new drainage dips or spillways
- Removing debris from culverts
- Replacing damaged or undersized culverts; the Proposed Action would replace approximately 35 culverts

- Installing new culverts; the Proposed Action would install approximately 58 new culverts
- Using erosion-control BMPs (such as sandbags, fiber rolls, straw bales, etc.) to prevent further erosion

The following activities in the Proposed Action have not been adequately described in the PEA; therefore, this SEA will evaluate the potential effects of the following activities:

- Revegetation by seeding or planting seedlings with mechanical equipment
- Contour felling for soil erosion control following a burn
- Seeding with native grass seed mix to prevent the reestablishment of noxious weeds
- Use of large burn piles and burn piles with large material
- Removal of noxious weeds by use of the herbicide Milestone™

Figure 2-1 shows the area where post wildfire mitigation project activities would occur, as well as proposed staging and construction areas. Several of the proposed staging areas are at lower elevations. Figure 2-2 shows the area where fuels reduction and erosion control activities would occur in greater detail.

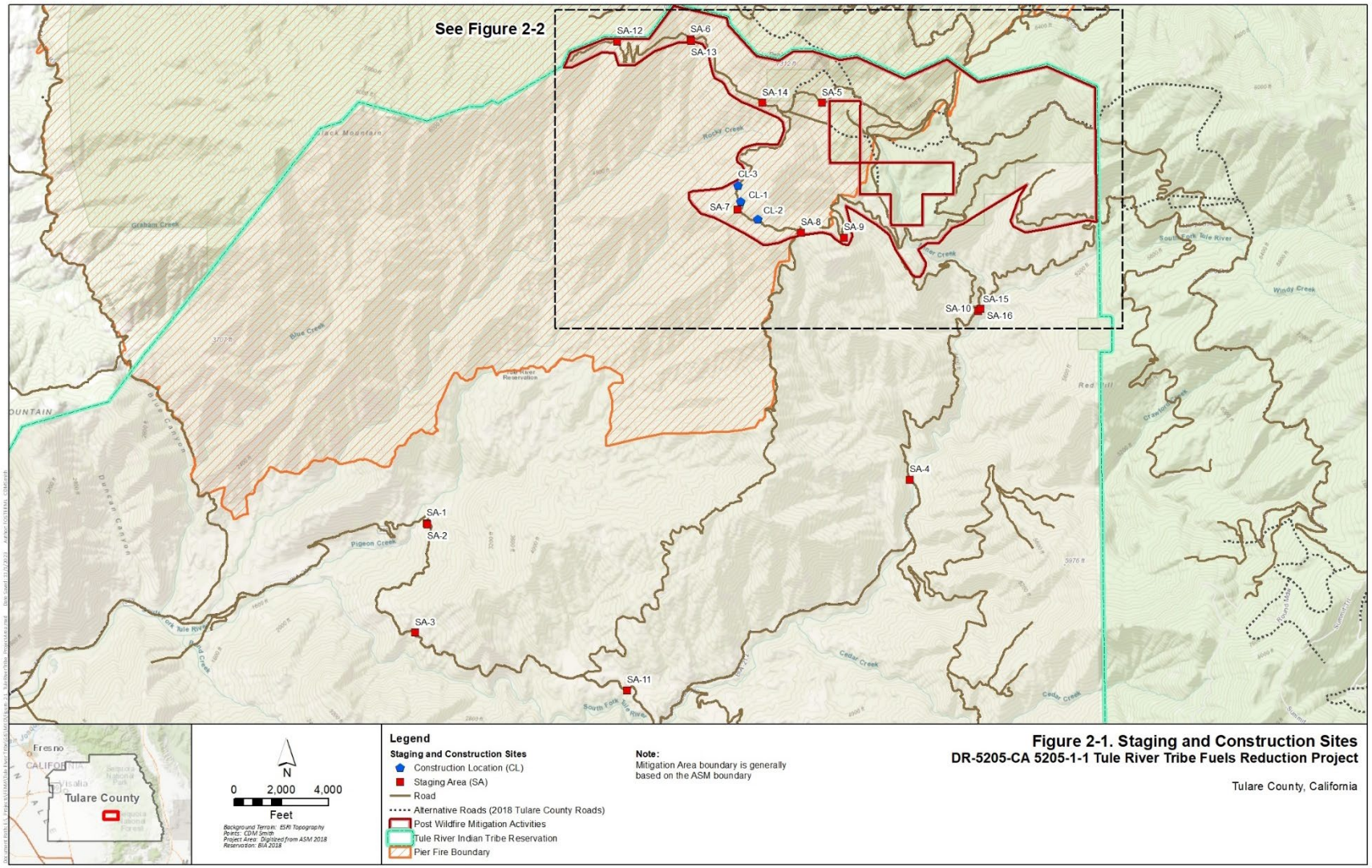


Figure 2-1. Staging and Construction Sites

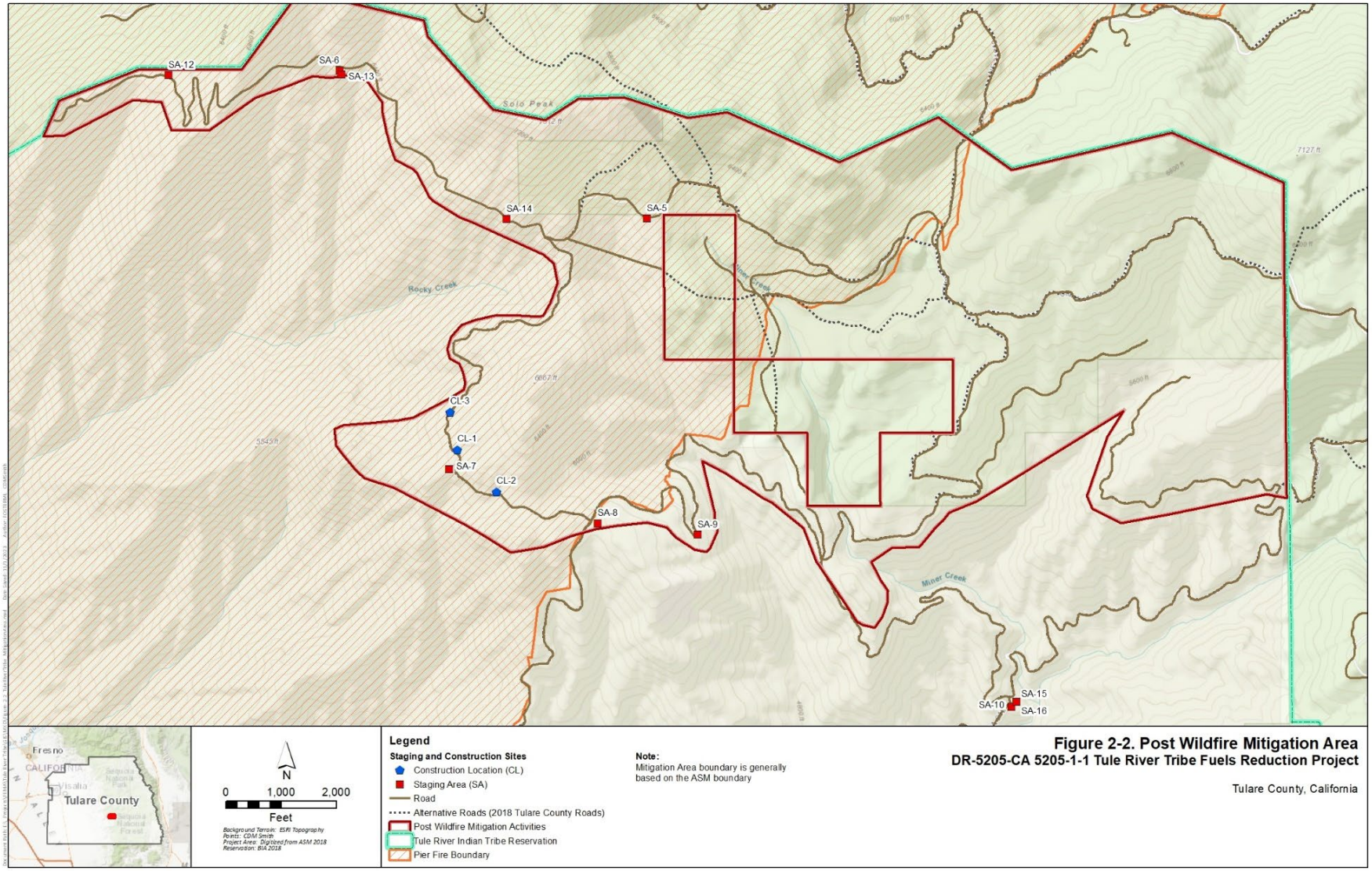


Figure 2-2. Post-Wildfire Mitigation Area

2.2.1. REVEGETATION BY SEEDING OR PLANTING SEEDLINGS

In advance of the planting effort, brush and woody debris would be cleared using hand tools or, where hand treatment is not possible, mechanical equipment may be used. The planting stock would typically consist of bare root plants or containerized seedlings from region-appropriate seed zones. Seedlings of species indigenous to a mixed conifer forest typical of the western slopes of the Sierra Nevada Mountains would be planted on approximately 800 acres of the burned area away from the existing road network. Typical coniferous species may include ponderosa pine, sugar pine, incense cedar, and giant sequoia, white fir, and Jeffrey pine. Common hardwoods found in the understory include California black oak, interior live oak, and dogwood. The specific species chosen would depend on the individual growing site and availability of plant material. Reforestation activities that involve mechanical site preparation would comply with the standards in the Tribe's Forest Management Plan. Minimal grubbing may be needed for tree planting. Grubbing disturbs the soil while clearing ground cover in order to clear an open space to allow the trees to be planted. Planting would be done using hand tools such as shovels or hoedads. Maximum depth of ground disturbance would be up to 1 foot to allow for proper placement of seedling roots. In advance of the planting effort, brush and woody debris are cleared using hand tools or, where hand treatment is not possible, mechanical equipment is used. The planting stock typically consists of bare root plants or containerized seedlings from region-appropriate seed zones.

2.2.2. CONTOUR FELLING FOR SOIL EROSION CONTROL FOLLOWING A BURN

The risk of soil erosion on approximately 500 acres in areas with steep slopes would be mitigated through contour log felling, installation of water breaks, and mulching with the chips that result from chipping cut trees, limbs, and other vegetation. Contour felling is where standing dead trees are cut so that they fall parallel to the contours of the land and perpendicular to the flow of water down the slope. As water from rainfall or snowmelt flows downhill, it picks up soil particles and results in erosion. The contour logs slow and stop the water and prevent the soil from moving downslope.

2.2.3. USE OF BURN PILES AND BURN PILES WITH LARGE MATERIAL

Slash would be disposed of through a combination of chipping, lopping and scattering, mechanical crushing, and/or piling for burning. Burn piles are typically 10 feet long by 10 feet wide by 6 feet high. There would be up to approximately 10 to 15 burn piles per acre in areas where cut material is piled for burning. Of those burn piles, approximately 70 percent would be burned after a 1-year drying time, while approximately 30 percent would be left for wildlife to use. Pile burning would be planned and implemented under a burn plan approved by the Bureau of Indian Affairs (BIA) Pacific Regional Office. The burn plan would outline site-specific measures for smoke management. Burn pile locations would be determined after hazardous fuels reduction has taken place. Burning operations take place during winter, between 6:00 a.m. and 4:00 p.m.

2.2.4. REMOVE NOXIOUS WEEDS BY APPLYING HERBICIDE

Noxious weeds (e.g., yellow star thistle [*Centaurea solstitialis*]), Italian thistle [*Carduus pycnocephalus*], bull thistle [*Cirsium vulgare*], and milk thistle [*Silybum marianum*]) would be removed through application of the herbicide Milestone™. This work would take place across approximately 400 to 500 acres of the burned area. Herbicides would be applied in the spring via targeted spraying (i.e., there would be no broadcast spraying) with gas-powered pumps and backpack sprayers. A buffer of 50 feet would be implemented around all waterbodies; noxious weeds within this 50-foot buffer would be removed by hand. Once the invasive species are under control, these areas would be replanted with indigenous trees per section 2.2.1.

3. Affected Environment and Environmental Consequences

The affected environment and environmental consequences associated with the Proposed Action are mostly consistent with the affected environment and environmental consequences described in the PEA for most resource areas. However, the post-fire activities in the Proposed Action have not been described in the PEA because they were not eligible activities under the HMGP when the PEA was developed. This section supplements the PEA and describes the additional environmental consequences potentially associated with the Proposed Action.

Mitigation, minimization, and avoidance measures that are stipulated in the PEA or that are appropriate for the Proposed Action, based on the results of the impact analysis in the SEA, are discussed in Section 4, *Best Management Practices, Minimization, and Mitigation Measures*, of this SEA.

The effects of the No Action alternative for all resource areas are described in the PEA. Under the No Action alternative, there would be no FEMA funding available, and the existing hazards would remain unabated, including those that may arise from unmitigated post-wildfire damage. The environmental consequences of activities described in Section 4, *Environmental Consequences of Activities and Alternatives*, of the PEA are not reiterated in this document.

When possible, FEMA considers quantitative information to establish potential impacts; the significance of potential impacts is evaluated based on the criteria presented in Table 3.1. The "project area" generally includes the post-wildfire mitigation area and all access and staging areas needed to implement the Proposed Action.

Table 3.1. Evaluation Criteria for Potential Impacts

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

Impact Scale	Criteria
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse impacts would be required to reduce impacts, but long-term changes to the resource would be expected.

3.1. Resources Not Present

The following resources are not present in the project area and would not be affected by either the No Action alternative or the Proposed Action:

- Coastal resources (Coastal Zone Management Act)
- Sole source aquifers (Safe Water Drinking Act)
- Farmland soils (Farmland Protection Policy Act)
- Wild and scenic rivers (Wild and Scenic Rivers Act)
- Land use and zoning

3.2. Soils, Farmland Soils, and Topography

Existing Conditions

The project area is in the upper reaches of the Tule River watershed, in the Cascade-Sierra Mountains Geomorphic Province. The Tulare Formation can be up to 4,000 feet thick and its sediments consist mainly of unconsolidated deposits of clay, silt, sand, and gravel (Page 1983). Topography in the project area is steep and mountainous with elevations ranging from approximately 5,250 to 7,300 feet North American Vertical Datum of 1988 (NAVD88) (U.S. Geological Survey [USGS] 2021), with approximately 30- to 50-percent slopes.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2022), the predominant soils in the project area are Crouch-Rock outcrop complex (40 percent), followed by Chaix-Rock/Chawanakee outcrop complex (25 percent), and Chawanakee-Rock outcrop complex, 30- to 50-percent slopes (664), and Holland loam (15 percent). All soils have a moderate to very high susceptibility to erosion by water (NRCS 2022).

The Farmland Protection Policy Act requires federal agencies to minimize the unnecessary conversion of farmland into nonagricultural uses. According to NRCS (2021), the project area is composed entirely of “not prime farmland.”

Impacts of the Proposed Action

The impacts of fire on soil have become better understood with the increase in large wildfires and hazardous fuels reduction activities on lands across the West in recent years. The Proposed Action would include revegetation by seeding or planting seedlings to reestablish vegetation after the Pier Fire. Seeding to stabilize ground disturbed by construction is mentioned as a BMP to minimize the effects of other actions but is not evaluated as a Proposed Action in the PEA. Seeding and planting native species would have moderate long-term benefits through the establishment of indigenous trees and grasses that would protect soils from erosion and loss of nutrients.

The removal of standing dead trees would reduce fuel loads and would likely have minor long-term beneficial impacts on soils by reducing the risk of soil damage from wildfires. Installation of erosion-control measures (such as contour felling) would provide minor short-term benefits to soils by decreasing the potential for soil loss and erosion and allowing the tree seedlings and native grasses time to become established and provide ground cover. The PEA does not include contour felling for soil erosion control following a burn, as either a covered activity or a BMP. Over the long term, the establishment of indigenous trees and native grasses would help to hold soil in place, thereby minimizing erosion and loss of nutrients.

The PEA does not address the potential impacts on soils from the use of burn piles with large material (greater than 8 inches). When piles are large or include large material, they may burn for a longer time and be hotter than smaller piles. These conditions can affect the soil under the pile and create hydrophobic conditions that inhibit regrowth and soil stabilization. Under the Proposed Action, some piles may contain some larger material, but most piles would be smaller piles approximately 10 feet long by 10 feet wide and 6 feet high; thus, there would be minor adverse impacts on the underlying soils.

The Proposed Action includes the use of the herbicide Milestone™ for noxious weed control, which has been approved by the EPA for use up to the edge of waterbodies. Noxious weeds can result in impacts on soil and soil erosion because they may not be as deeply rooted as indigenous species and they may contribute to the spread of wildfires that also result in soil erosion. Herbicide treatments have the potential to increase soil loss and erosion through the removal of ground cover in the short term. In the long term, herbicide use would remove noxious weeds, providing space for the growth of native species that may be more fire resistant and better at retaining soils in the mountainous conditions of the project area. There would be a minor long-term beneficial effect from herbicide use in the project area.

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

Comparison of Impacts to the PEA Scope

Although the proposed activities differ from those described in the PEA, the impacts of the Proposed Action on soils would be similar to the impacts evaluated in the PEA. The PEA actions include heavy equipment use, planting, and vegetation removal that were found to result in short-term impacts on soils. Soil loss would occur directly from ground disturbance or indirectly through wind or water

erosion. With implementation of environmental mitigation measures and applicable BMPs for geology and soils, as described in Appendix C of the PEA (List of Typical Best Management Practices), the Proposed Action would have minor short-term impacts on the soils of the project area. In the long term, the Proposed Action would benefit the soils of the project area by reducing wildfire risk and reducing soil erosion in burned areas.

3.3. Air Quality

Existing Conditions

The project is in Tulare County. The EPA lists the county as being in nonattainment for lead, particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and 8-hour ozone.

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

Air quality is negatively affected by everyday activities such as vehicle use and pile burning, and 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 et al. 2019). Air quality also can 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 Resources Board 2007). Many of the roads in the Tule River Indian Reservation are surfaced with gravel or dirt, and dust may be released when they are driven on during dry conditions.

Impacts of the Proposed Action

Equipment used to implement the Proposed Action would include chainsaws, log chippers, rubber-tired log skidders, loaders, backhoes, bulldozers, water trucks, excavators, dump trucks, and pickup trucks to transport project personnel. Vehicle use on dirt or gravel roadways, such as those in the project area, can contribute to fugitive dust while gas-powered equipment can produce particulate matter. Vehicles would be used to transport crews to the treatment areas and tracked equipment would be used only on previously disturbed ground, such as roads and trails. Only rubber-tired equipment would be used for tree or vegetation removal on undisturbed ground. Mechanical equipment would not operate on slopes exceeding 45-percent gradient. Thus, ground disturbance would be negligible, limiting the release of fugitive dust.

Pile burning produces smoke that can impact air quality in ways similar to a wildfire. Pile burning would be planned and implemented under a burn plan approved by the BIA Pacific Regional Office. The burn plan would outline site-specific measures for smoke management. Burn pile locations would be determined after hazardous fuels reduction has taken place. Burning operations are generally scheduled during the winter, between 6:00 a.m. and 4:00 p.m. There would be approximately 10 to 15 burn piles per acre in areas where cut material is piled for burning. Of those burn piles, approximately 70 percent would be burned after a 1-year drying time because drier wood burns faster and produces less smoke. Because the burning would occur over a relatively short time frame, smoke released from burn piles would be limited. Approximately 30 percent of the piles would be left for wildlife to use. Piles would not be burned concurrently, would be relatively small, and would be burned in accordance with a burn plan that considers air quality and climate conditions; hence, there would be minor adverse impacts on air quality.

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

The Proposed Action would have minor short-term air quality impacts from vehicle and equipment use, pile burning, and activities contributing to the release of fugitive dust. By reducing the risk of wildfire spread within the project area, hazardous fuels reduction activities would have minor long-term beneficial impacts on air quality.

Comparison of Impacts to the PEA Scope

Although the proposed activities differ from those described in the PEA, the impacts of the Proposed Action on air quality would be similar to the impacts evaluated in the PEA. Short-term local impacts on air quality could include fossil-fuel use for construction equipment and fugitive dust emissions from soil disturbance. The PEA includes the use of pile burning as a method to dispose of cut vegetative material, but it does not discuss the use of large pile burning or its potential impacts. Burning would be conducted in accordance with a burn plan, as discussed above. With implementation of BMPs from the burn plan—in addition to the BMPs provided in the Environmental Assessment Report for the Pier Fire East Emergency Stabilization and Salvage Sale Projects (Tule River Indian Tribe 2018) and applicable BMPs for Air Quality described in Appendix C of the PEA (List of Typical Best Management Practices)—the Proposed Action would have minor short-term impacts on air quality. In the long term, the Proposed Action would benefit air quality by reducing the risk of wildfire spread.

3.4. Climate Change and Greenhouse Gas Emissions

"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 can affect species distribution, temperature fluctuations, and weather patterns. The Council on Environmental Quality's (CEQ's) 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 greenhouse gases per year.

Existing Conditions

The project area is in the upper reaches of the Tule watershed, in the California Central Valley Ecoregion. Annual precipitation in the project area averages approximately 45 inches. In these upper elevations, temperatures range from an average low of 27 degrees Fahrenheit (°F) in December and January to an average high of 55°F in July (Kinney 2013).

Temperatures in the Southwest have increased by almost 2°F in the past century, with the 2001 to 2010 decade being the warmest since records began 110 years ago (EPA 2023b). Average annual temperatures are projected to rise an additional 3.5°F to 9.5°F by the end of this century, with the greatest temperature increases expected in the summer and fall (EPA 2023b). Drought periods are expected to become more frequent, intense, and longer in duration. Warmer temperatures would decrease mountain snowpack, resulting in higher winter and lower summer stream flows. Earlier spring snowmelt and higher temperatures also increase the risk of wildfires in the region, and North American wildfires have increased in intensity and frequency over the past 50 years (EPA 2023b).

Impacts of the Proposed Action

Short-term local impacts on GHG emissions from construction activities would likely include fossil-fuel use from construction equipment, which would produce GHG emissions. The Tribe would employ environmental mitigation measures to limit emissions, including keeping construction equipment properly maintained and limiting idling times.

Pile burning would be planned and implemented under a burn plan and conditions discussed in Section 3.3. The overall volume of emissions released from burning the piles would not approach the need for a detailed quantitative analysis per CEQ guidance (CEQ 2016). Therefore, the Proposed Action would have minor short-term impacts on GHG emissions from vehicle and equipment use and pile burning. By reducing the risk of wildfire spread within the project area, hazardous fuels reduction activities would have minor long-term beneficial impacts on climate change.

Comparison of Impacts to the PEA Scope

Although the proposed activities differ from those described in the PEA, the impacts of the Proposed Action on air quality would be similar to the impacts evaluated in the PEA. Short-term impacts could include fossil-fuel use for construction equipment. The Tribe would employ environmental mitigation measures to limit construction emissions. The PEA includes the use of pile burning as a method to dispose of cut vegetative material, but it does not discuss the use of large pile burning or its potential impacts. With implementation of the environmental mitigation measures and BMPs provided in the Pier Fire East Environmental Assessment Report (Tule River Indian Tribe 2018), the burn plan conditions discussed in Section 3.3., as well as applicable BMPs for Air Quality described in Appendix C of the PEA (List of Typical Best Management Practices), the Proposed Action would

have minor short-term impacts on GHG emissions. In the long term, the Proposed Action would benefit climate change by reducing wildfire risk.

3.5. Water Resources

3.5.1. SURFACE WATER AND GROUNDWATER

Existing Conditions

Water resources include surface water, groundwater, and stormwater regulated under the Clean Water Act (33 United States Code [U.S.C.] 1251 et seq.). The Proposed Action area is within the South Fork Tule River Watershed, which includes Miner, Rocky, and Pigeon Creeks (tributaries of South Tule River) and several unnamed perennial tributaries to Miner Creek, based on a review of the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) and the USGS National Hydrography Dataset (see Figure 2-1 and Figure 2-2). These larger creeks are intermittent in the upper reaches and perennial in lower reaches. There are also many ephemeral streams in the project area.

Groundwater in the project area is not near the surface and would not be affected by any of the alternatives.

Impacts of the Proposed Action

Revegetation by seeding or planting seedlings using mechanical equipment could affect water resources if soils are compacted and/or loosened, thereby resulting in erosion of soils into surface waters. In addition, impacts on water quality could occur from accidental spills of construction-related hazardous materials (e.g., fuel and oil) used during operation of mechanical equipment. However, erosion-control BMPs (e.g., sandbags, fiber rolls, straw bales) and BMPs to protect water quality would be implemented according to the applicable BMPs for geology and soils and water resources described in Appendix C of the PEA (List of Typical Best Management Practices). Thus, there would be minor short-term adverse impacts on water quality. In the long term, revegetation would prevent soil erosion because plant roots hold soil in place, resulting in minor long-term benefits on water quality.

Contour felling would reduce the potential for soil erosion by intercepting and slowing the transport of water and soils downslope toward surface waters. Contour felling would result in minor long-term benefits on water quality.

Burn piles with large material may have some spots that burn longer or a bit hotter than the rest of the pile. This could result in small areas where the soils revegetate more slowly, thus creating small pockets that are potentially more susceptible to erosion. The use of burn piles containing large material to dispose of cut material would have negligible short- or long-term impacts on water resources.

Herbicide use could affect water quality. The PEA evaluates the impact of using glyphosate-based herbicides between 200 and 50 feet of a waterway, but it does not analyze the use of the herbicide Milestone™ within 200 feet of waterways. Milestone has been approved by EPA for use up to the edge of waterbodies. The herbicide Milestone™ would be limited to targeted spraying of noxious weeds and would not be applied within 50 feet of streams. Therefore, the use of Milestone™ would not have a short- or long-term impact on water resources.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on water resources would be consistent with the scope of impacts evaluated in the PEA. The PEA evaluates the repair and replacement of culverts along roads and within streams and other waters of the U.S. The activities in the Proposed Action related to road and culvert repair and replacement are adequately covered by the PEA. The use of mechanical equipment, vegetation removal, and revegetation activities were found to result in minor short-term impacts on water resources due to degradation of water quality from release of soils and/or hazardous materials to surface waters. Contour felling would result in minor long-term benefits on water quality by reducing the potential for soil erosion. The PEA concludes that—with implementation of applicable BMPs for Water Resources described in Appendix C of the PEA (List of Typical Best Management Practices)—the Proposed Action would have minor short-term impacts on water resources in the project area. In the long term, the Proposed Action would benefit water resources by reducing wildfire risk and reducing soil erosion in burned areas.

3.5.2. WETLANDS

Existing Conditions

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

Based on a review of the NWI, there are a few small freshwater emergent and forested/shrub wetlands as well as riverine habitats and freshwater ponds that may have associated wetlands within the project area (Figure 3-1). However, the area where fuels reduction and erosion control would occur is at the top of the watershed, in a steep rugged area, where there is little topography that lends itself to wetlands.

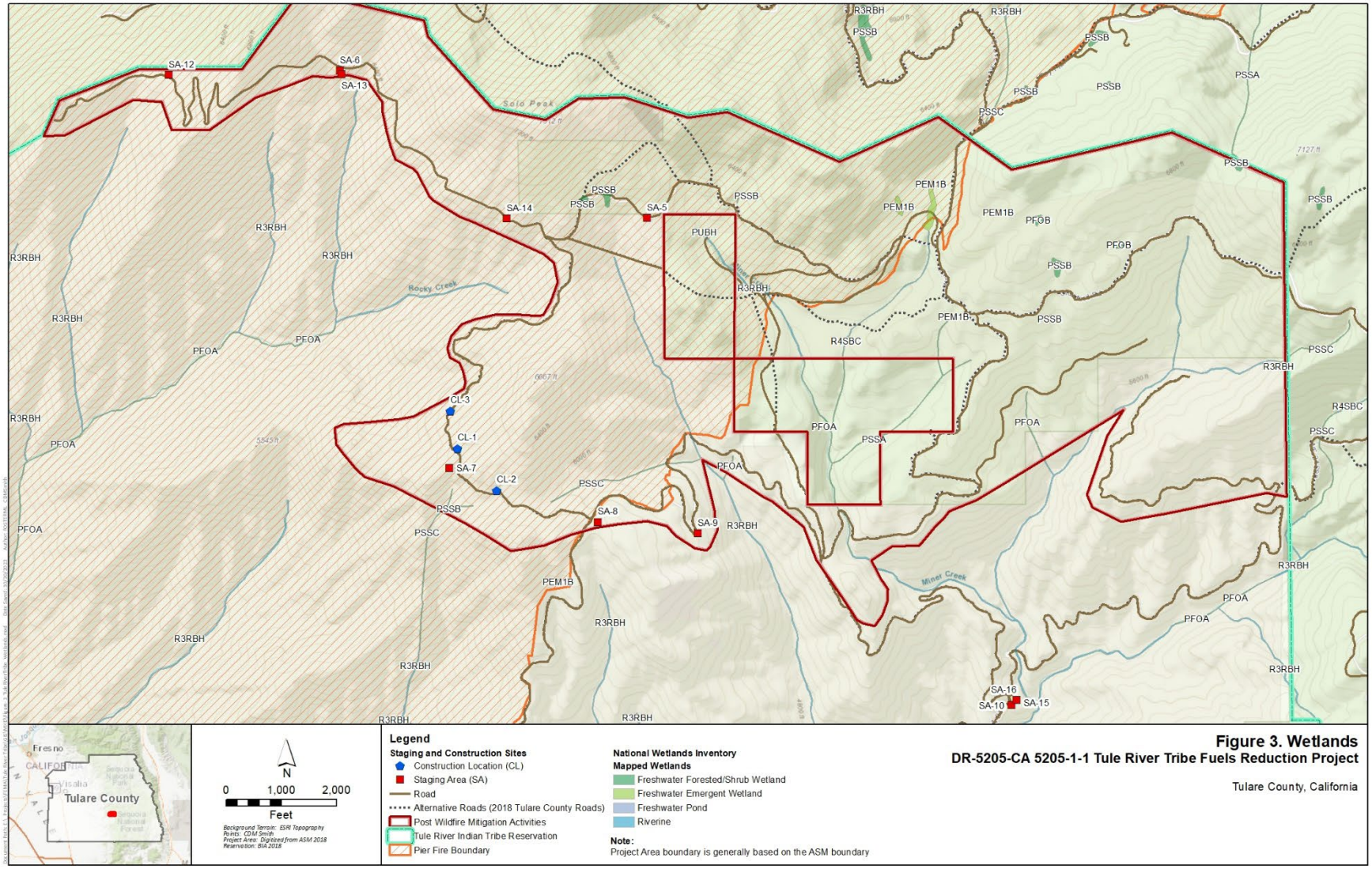


Figure 3-1. Wetlands in the Post-Wildfire Mitigation Activity Area

Impacts of the Proposed Action

The Proposed Action would not entail activities within wetlands. However, there may be work near wetlands such as vegetation removal, planting, or the use of herbicides that could result in short-term impacts associated with degradation of water quality.

The use of mechanical equipment for removal of cut vegetation, for revegetation, or for culvert construction could result in erosion of soil, thereby degrading wetland water quality if the equipment were used in close proximity to wetlands. In addition, water quality in wetlands could be degraded if construction equipment-related hazardous materials (e.g., fuel and oil) were spilled and allowed to enter wetlands. However, erosion-control BMPs (e.g., mulching, sandbags, fiber rolls, straw bales), and BMPs to protect water quality, would be implemented (as needed) per applicable BMPs for Water Resources described in Appendix C of the PEA (List of Typical Best Management Practices).

Contour felling would reduce the potential for impacts on wetlands from soil erosion by intercepting and slowing the transport of water and soils downslope toward wetlands. Contour felling would result in minor long-term benefits on wetlands when it occurs near wetlands.

Burn piles containing large material would not have short- or long-term impacts on wetlands because they would not be placed in or adjacent to wetlands.

The herbicide Milestone™ would not be used within 50 feet of streams that may support wetlands. Therefore, no impacts on wetlands are expected.

Comparison of Impacts to the PEA Scope

Impacts on wetlands would be consistent with the scope of impacts evaluated in the PEA. The use of mechanical equipment, vegetation removal, and revegetation activities were found to result in minor short-term impacts on wetlands due to degradation of water quality, as described in Section 3.5.1 for surface waters. The PEA concludes that—with implementation of applicable BMPs for Water Resources described in Appendix C of the PEA (List of Typical Best Management Practices)—the Proposed Action would have minor short-term impacts on wetlands in the project area. In the long term, the Proposed Action would benefit wetlands by reducing wildfire risk and reducing soil erosion in burned areas.

3.5.3. FLOODPLAINS

Existing Conditions

EO 11988, Floodplain Management, requires federal agencies to minimize occupancy and modification of floodplains. Specifically, EO 11988 prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives. According to Flood Insurance Rate Map 06107C1725E (effective June 16, 2009), the project area is in Zone D, an area with undetermined flood hazards. The project area consists mostly of forested vegetation,

steep slopes, and a few perennial/intermittent streams flowing down narrow draws. The project area is in the headwaters portion of the watershed and lacks broad valleys that would form floodplains.

Impacts of the Proposed Action

The narrow drainages in the project area do not support floodplains. Therefore, no impacts are expected.

Comparison of Impacts to the PEA Scope

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

3.6. Biological Resources

3.6.1. TERRESTRIAL AND AQUATIC HABITAT

Existing Conditions

The project area is at elevations between 5,250 to 7,300 feet, where the vegetation consists primarily of mixed conifer forest. Typical species include ponderosa pine (*Pinus ponderosa*), incense cedar (*Calocedrus decurrens*), and black oak (*Quercus kelloggii*) at lower elevations, with incense cedar, sugar pine (*Pinus lambertiana*), white fir (*Abies concolor*), and giant sequoia (*Sequoiadendron giganteum*) occurring at mid to high elevations. Understory vegetation includes black oak, Pacific dogwood (*Cornus nuttallii*), Canyon live oak (*Quercus chrysolepis*), beaked hazelnut (*Corylus cornuta*), bush chinquapin (*Chrysolepis sempervirens*), whitethorn (*Ceanothus cordulatus*), currant (*Ribes* sp.), snowberry (*Symphoricarpos* sp.), and grasses and forbs (Jump 2004 as cited in Galloway and Stevens 2014; Tule River Indian Tribe 2022).

Aquatic habitat in the project area includes perennial, intermittent, and ephemeral streams. Larger streams support riparian habitat consisting of California sycamore (*Platanus racemosa*), black cottonwood (*Populus trichocarpa*), white alder (*Alnus rhombifolia*), and several species of willow (*Salix* sp.). There is no designated Essential Fish Habitat within the project area.

Approximately half of the project area is in the footprint of the Pier Fire. Within areas burned in 2017, vegetation composition has been severely altered, resulting in areas lacking in vegetative cover; although, understory vegetation may be recovering where invasive species have not spread.

Impacts of the Proposed Action

Impacts on aquatic and terrestrial habitats from the Proposed Action include the temporary reduction of vegetation in localized areas where vegetation has already been reduced or modified owing to wildfire. Vegetation types would be modified by removal of noxious weeds and revegetation of native species. Wildlife in localized areas could be harmed from contact with vehicles and equipment or displaced due to noise, disturbance, and loss or modification of habitat.

Removal of standing dead trees could result in some loss of habitat for cavity nesters if the burned trees are used by cavity nesters. Some research indicates that use of burned trees by cavity nesters declines in years 5 through 7 following a fire (Saab et al. 2004). The longer it has been since a fire, the availability of prey species and presence of predators of cavity nesters shifts as an area recovers. In addition, standing dead trees begin to fall on their own, reducing the availability of trees with cavities.

Revegetation by seeding or planting seedlings using mechanical equipment may result in more ground disturbance than planting by hand. Mechanical equipment has the potential to compact soils and/or result in soil erosion in localized areas. However, erosion-control BMPs (e.g., sandbags, fiber rolls, straw bales) would be implemented as needed, and activities such as contour felling would further reduce soil erosion in vegetation management areas. Contour felling in burn areas would intercept and slow the transport of water and soils downslope, which would benefit newly planted seedlings by allowing roots to retain soil and moisture. Piles of cut material left unburned may provide temporary wildlife habitat in areas devoid of vegetation.

The herbicide Milestone™ would be limited to targeted spraying of noxious weeds and would not occur within 50 feet of streams. According to the manufacturer, Aminopyralid, the active ingredient in Milestone™ is especially potent on problematic weeds such as thistles, is effective at low rates, and provides residual control, which reduces the amount used and decreases the need for retreatment. Aminopyralid could have adverse impacts on non-target plants; these impacts would be avoided by implementation of BMPs, including target spraying and measures to control drift. Hence, there may be some negligible short-term adverse impacts on plants and terrestrial habitats, but there would be long-term moderate benefits from the reduction in noxious weeds and the reestablishment of native vegetation and habitats.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on terrestrial and aquatic habitats would be similar to the impacts evaluated in the PEA. Vegetation removal would result in displacement or mortality of individual wildlife and modification or degradation of habitats. Herbicide use could directly harm non-target plant and animal species and/or result in indirect impacts on wildlife habitats due to effects on non-target plant species. The PEA concludes that short-term impacts on habitats and wildlife would not substantially disturb the biological resources of a project area, assuming that applicable BMPs for Water Resources, as described in Appendix C of the PEA (List of Typical Best Management Practices), are implemented. Therefore, with implementation of erosion control and herbicide application BMPs, there would be minor short-term impacts on biological resources. In the long term, the Proposed Action would benefit wildlife and wildlife habitats by reducing wildfire risk, restoring native habitat types, and reducing soil erosion in burned areas.

3.6.2. THREATENED AND ENDANGERED SPECIES

Existing Conditions

The Endangered Species Act (ESA) of 1973 provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The law requires federal agencies to ensure actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a "taking" of any listed species.

The Tribe, working with BIA, prepared a Programmatic Biological Assessment to evaluate effects of implementation of the Tribe's Integrated Resource Management Plan on threatened and endangered species. The activities proposed for funding by FEMA under the Proposed Action are all components of the activities described in the Integrated Resource Management Plan. BIA consulted with USFWS on the potential for the activities to affect listed species and designated critical habitat as described in the impacts section below (USFWS 2022). The following federally listed species that have potential to occur in the project area were included in the consultation:

- Fisher – Southern Sierra Nevada Distinct Population Segment (DPS) (*Pekania pennanti*); endangered
- California condor (*Gymnogyps californianus*); endangered
- Springville clarkia (*Clarkia springvillensis*); threatened

Existing conditions, including the extent of suitable habitat for the species, habitat use, and life history for each of the three federally listed species with potential to occur within the project area, is described below.

Fisher

The project area is at the southern extent of the Southern Sierra Nevada fisher DPS. In this area, fishers are most abundant between 6,000 and 7,000 feet (Spencer et al. 2015, as cited in USFWS 2022). As part of a study on the adjoining Sequoia National Forest, several fishers were captured and fitted with radio collars in the northeastern portion of the Reservation (K. Vera, Tule River Indian Tribe, as cited in USFWS 2022). Fishers have also been documented on camera surveys in the southeastern portion of the Reservation and within the perimeter of the 2017 Pier Fire in the northeastern portion of the Reservation. Three of nine camera stations in the Pier Fire study area had fisher detections in 2018 and/or 2019, representing at least one individual fisher. A third year of Pier Fire surveys in 2020 yielded no fisher detections.

Habitat models developed by the Conservation Biology Institute (CBI) in 2020 identified 16,238 acres of potentially suitable fisher habitat in the upper elevations of the Reservation (Thompson et al. 2020, as cited in USWFS 2022). Of this total acreage, 15,072 acres were modeled

as suitable for foraging and 9,760 acres for denning, with considerable overlap between the two. USFWS revised the models to account for substantial additional tree mortality that resulted from insect infestation and wildfires since 2016, including the 2017 Pier Fire that resulted in areas with less than 40-percent canopy cover. After accounting for habitat alterations due to fire and for misclassified habitat types, the model currently indicates that 13,219 acres of suitable fisher foraging habitat is contained within Reservation boundaries (USFWS 2022).

USFWS also conservatively expanded the CBI-modeled denning habitat to encompass areas that were previously excluded but meet denning habitat criteria given by Thompson et al. (2020). At the same time, areas with less than 60-percent canopy cover in 2020 were removed. The updated model indicates that 9,754 acres of suitable fisher denning habitat is contained within Reservation boundaries. The total amount of suitable fisher habitat on the Reservation (for foraging, denning, or both) is 13,471 acres (USFWS 2022).

It is expected that the amount of suitable fisher habitat will change each year as wildfires increase in size and severity (USFWS 2022). The 2021 Windy Fire burn area was nearly all within fisher habitat on the Reservation. Habitat was burned at varying severity, with high severity burn areas resulting in the canopy cover being completely removed, which would exclude fisher from occurring in those areas. However, much of the habitat burned at lower severities and continues to provide suitable habitat for the species (USFWS 2022).

California Condor

Based on Global Positioning System (GPS) transmitter data, California condors have been documented at numerous roost sites on the Reservation ranging in elevation from approximately 1,400 to 6,700 feet (USFWS 2022). Data indicate an abundance of suitable roost locations within several different forest, woodland, and chaparral/scrub habitat types. Roosting takes place nearly year-round. Condors do not currently nest in the Sierra Nevada, but suitable nesting habitat is present (USFWS 2022).

Springville Clarkia

Three populations of the listed plant species, Springville clarkia, have been documented on the Reservation (USFWS 2022). Based on site-specific information and overall population occurrence, potential habitat for the species on the Reservation consists of chaparral or oak woodlands with granitic soils that are below 3,000 feet in elevation. Suitable habitat was mapped by overlaying a subset of the Tribe's vegetation data on a subset of the Reservation's soil data and constraining the resulting polygons to portions of the Reservation below 3,000 feet. Using this method, the total area of potential Springville clarkia habitat on the Reservation is 9,584 acres. However, because of microhabitat preferences, the actual area of suitable habitat on the Reservation is likely much less (USFWS 2022).

Impacts of the Proposed Action

In consultation between BIA and USFWS in 2022, USFWS issued a Programmatic Biological Opinion (PBO) on implementation of the Tribe's Integrated Resource Management Plan, concurring with the effects determinations for fisher, California condor, and Springville clarkia (USFWS 2022). All of the activities in the Proposed Action are covered by that consultation and FEMA is relying on the BIA-USFWS consultation for compliance with ESA. A summary of the impacts analysis for each of these species from the PBO and specific to the proposed activities that were not adequately covered in the PEA, is provided below.

Fisher

Revegetation with mechanical equipment has the potential to directly affect fishers, particularly during the denning season when females are less mobile, and kits are wholly dependent on their mothers for survival. However, revegetation with mechanical equipment would be focused on areas along roads and culverts where denning is less likely. Most revegetation work would be conducted with hand tools.

Conservation measures include restricting tree felling and revegetation activities to outside the denning season (March 1 to June 30) unless pre-project wildlife camera surveys indicate that fisher are absent from the project area. During tree felling (including contour tree felling), known or potential den trees would be retained to the maximum extent feasible. Therefore, denning females and their young are not likely to be injured or killed by tree felling activities.

Stress or disturbance from noise and human activity during contour tree felling and revegetation using mechanical equipment may cause non-denning fishers to seek alternative habitat, but this would be limited owing to the localized nature and limited duration of this activity and is unlikely to cause injury or mortality of individuals. However, significant disturbance near active dens could lead to reproductive failure (USFWS 2022).

Burn piles serve as reservoirs for fisher prey and may be used by fishers (Green et al. 2019, as cited in USFWS 2022). Elimination of burn piles through chipping and burning may therefore decrease localized habitat quality for fishers. Implementation of the conservation measures described in the PBO would minimize the impacts of wildland fire management activities on fisher habitat. These include retaining critical fisher habitat components, such as snags, potential den and rest trees, coarse woody debris, and selected slash piles, as well as retaining existing canopy within riparian areas (USFWS 2022). The long-term benefits of wildland fire management activities, including restoring native vegetation and controlling erosion, may outweigh any short-term negative impacts on fisher habitat (USFWS 2022).

Use of the herbicide Milestone™ is not expected to have adverse impacts on the fisher, as it is considered "virtually non-toxic" to mammals, based on acute oral toxicity studies with rats, and does not bioaccumulate in tissues (WSDOT 2017, as cited in USFWS 2022). EPA's evaluation of ecological risk of the active ingredient Aminopyralid found no acute or chronic risks of concern to mammals, birds, fish, reptiles, amphibians, or invertebrates (EPA 2021).

If all conservation measures identified in the PBO are implemented within fisher habitat (i.e., determined by habitat survey), including a limited operating period, the project would be not likely to adversely affect the fisher (USFWS 2022).

California Condor

Potential impacts on California condor from the Proposed Action may include disturbance of roosting and foraging activities. Given the widespread roosting habitat present at the Reservation, individual condors would readily find alternative roosts if forced to leave a roost site due to noise or other disturbance, such as during mechanical revegetation activities. With the right air conditions, condors are known to fly as many as 250 miles a day across mountainous terrain in search of food (USFWS 2022). The project area encompasses 2,392 acres, which is, at its maximum extents, about 1.5 miles by 4 miles. The project area is an extremely small portion of a condor's daily habitat and the active work zone within that project area is even smaller in relation to a condor's daily activity area. The likelihood of condors roosting in an area where a team is working is minimal. In addition, all project activities would be discontinued upon detection of any condors in the area and appropriate avoidance measures would be implemented in coordination with USFWS (e.g., identify appropriate buffer distance around roost or nest, and use of hand equipment only). Therefore, the potential impacts of disturbance of roosting condors would be avoided. Impacts on condors at foraging sites are not anticipated given the temporary nature of the Proposed Action activities at any one location.

Because condors do not currently nest on the Reservation, and suitable nesting habitat is in rugged terrain where proposed activities would generally not occur, no impacts on nesting are anticipated. The herbicide Milestone™ is considered "virtually non-toxic" to wildlife, and no impacts on condors from use of the herbicide to treat noxious weeds would be expected. Therefore, the Proposed Action is not likely to adversely affect the California condor.

Springville Clarkia

Potential impacts on Springville clarkia may include direct harm from trampling, crushing, or removal, harm from herbicide use, and dust generation during mechanical revegetation and contour log felling. However, existing populations would be surveyed and flagged at the onset of the project so that they can be avoided, and a survey would be conducted approximately every 3 years (if the project takes longer than 3 years) so that new populations would be detected and avoided. In advance of any fuels reduction work in potential Springville clarkia habitat, the Tribe will provide training for field personnel regarding the identification of this species and the microsites with which it is typically associated. Personnel will be required to visit the known roadside populations of this species to refresh their field identification skills each year prior to work, and to flag populations for avoidance (USFWS 2022).

Use of the herbicide Milestone™ could have adverse impacts on Springville clarkia if applied directly to these plants. This would be avoided by spot spraying target noxious weeds rather than through broadcast methods, avoiding spraying during windy conditions, and taking precautions to prevent drift. A buffer of 50 feet would be implemented around all flagged Springville clarkia; noxious weeds within this 50-foot buffer would be removed by hand. The Proposed Action may benefit the native

species by reducing invasive plants. Therefore, the Proposed Action is not likely to adversely affect Springville clarkia.

Comparison of Impacts to the PEA Scope

The PEA directs FEMA to evaluate impacts of a Proposed Action on threatened and endangered species and prepare the appropriate compliance documentation (e.g., No Effect Memorandum, Biological Assessment). As described above, impacts on threatened and endangered species were evaluated by BIA and conservation measures were proposed to avoid or minimize adverse effects. USFWS concurred with the findings and issued a PBO in 2022. With implementation of BMPs and the conservation measures of the 2022 PBO, the Proposed Action would have negligible short-term impacts on California condor and Springville clarkia. For fisher, with implementation of BMPs and conservation measures of the PBO, the Proposed Action would have minor short-term impacts on fisher. The Proposed Action would have minor long-term benefits on threatened and endangered species and their habitats by reducing wildfire risk, restoring native habitat types, and reducing soil erosion in burned areas.

3.6.3. MIGRATORY BIRDS

Existing Conditions

The Migratory Bird Treaty Act (MBTA) of 1918, as amended, 16 U.S.C. 703–711, protects migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions. The project area is in the Pacific Flyway, and numerous bird species have the potential to occur in the general area.

Impacts of the Proposed Action

Standing dead trees provide nesting habitat for cavity nesting bird species, such as woodpeckers and owls. The Proposed Action has the potential to result in impacts on migratory birds, if active nests in trees or other vegetation are disturbed. Stress or disturbance from noise and human activity during contour tree felling and revegetation using mechanical equipment may also result in nest failure. However, this would be limited owing to the localized nature and limited duration of this activity in any one area. BMPs to avoid impacts on migratory birds include restricting tree felling to outside the nesting season or pre-construction surveys for nesting birds and postponing felling of certain trees if active nests are present.

BMPs that avoid or minimize impacts on nesting migratory birds would be implemented in compliance with the PEA, and the Proposed Action would have minor short-term impacts on migratory birds. In the long term, the Proposed Action would benefit migratory birds and their habitats by reducing wildfire risk, restoring native habitat types, and reducing soil erosion in burned areas.

Comparison of Impacts to the PEA Scope

The PEA evaluates impacts on migratory birds and requires BMPs to be implemented if there is potential for impacts on nesting birds. The Proposed Action is consistent with the scope of impacts evaluated in the PEA if BMPs are implemented to avoid or minimize impacts on nesting migratory birds.

3.6.4. INVASIVE SPECIES

Existing Conditions

EO 13112, Invasive Species, requires federal agencies, to the extent practicable, 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 prefer disturbed habitats and generally possess high dispersal abilities, enabling them to out-compete native species.

Invasive and noxious weeds on the Reservation include yellow star thistle, Italian thistle, bull thistle, and milk thistle. These species are most problematic at elevations below 5,000 feet.

Impacts of the Proposed Action

Revegetation using mechanical equipment has the potential to introduce and/or spread invasive plants if weed seeds or other invasive plant parts are present on equipment or materials used within the project area. However, BMPs including cleaning all equipment before moving from one area to another and using only certified, weed-free, erosion control and revegetation materials would be implemented to avoid or minimize impacts related to invasive species.

Contour felling and burn piles using large wood would not result in short- or long-term impacts related to invasive species.

The Proposed Action would use the herbicide Milestone™ to treat invasive and noxious weeds within the project area. Milestone™ is particularly effective in the treatment and control of thistles, which are the problematic noxious weeds in the project area. Thus, the use of Milestone™ would be beneficial with respect to invasive species.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action related to invasive species would be the same as the impacts evaluated in the PEA. Use of mechanical equipment and erosion control and revegetation materials that are not weed-free could result in the introduction or spread of invasive species. The PEA concludes that—with implementation of applicable BMPs for Water Resources described in Appendix C of the PEA (List of Typical Best Management Practices)—the Proposed Action would have minor short-term impacts related to invasive species. In the long term, the Proposed Action would be beneficial with respect to invasive species by reducing their presence in the project area.

3.7. Historic Properties and Archaeological Resources

Existing Conditions

In accordance with Section 106 of the National Historic Preservation Act (NHPA), as amended and implemented by 36 CFR Part 800, FEMA must consider the potential effects of its funded actions upon cultural resources prior to engaging in any undertaking. The NHPA of 1966 defines a historic property as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register." Eligibility criteria for listing a property on the National Register of Historic Places (NRHP) is detailed in 36 CFR Part 60.

FEMA conducted a cultural resource investigation for the project's Area of Potential Effects (APE) that included an archival/records search and pedestrian archaeological survey. The investigation was completed by archaeologists who meet the Secretary of the Interior's professional qualification standards for archaeology and the Tribe's cultural resources monitor. Because this Undertaking is proposed on tribal trust land, and FEMA's Section 106 Programmatic Agreement is not applicable to tribal land, FEMA is reviewing this Undertaking per 36 CFR 800.

An archival and records search of the APE and a surrounding 0.5-mile radius area was conducted through the California Historical Resources Information System (CHRIS). The BIA separately provided archaeological records that were on file with the CHRIS. The search revealed that 16 archaeological resources had been previously recorded within the APE and 11 additional resources have been reported within a surrounding 0.25-mile radius. Seventeen prior cultural resource studies overlapped the APE, and two additional studies had been previously conducted within 0.25-miles of the APE. The records search indicated that all but 57 acres of the project APE had been previously surveyed for cultural resources with multiple cultural resources previously recorded within the APE.

The Native American Heritage Commission (NAHC) was not consulted for this project because it is wholly on tribal trust land. Instead, FEMA communicated directly with the Tule River Tribe concerning the project and its potential implications for cultural resources. No additional information was obtained; however, representatives of the Tule River Indian Tribe participated in the archaeological field survey and provided independent site condition and effects assessments. FEMA also consulted with the Tule River Tribe to request a permit waiver from BIA to conduct a non-collection, non-excavation pedestrian survey. To support the request for the permit waiver, the Tule River Tribe submitted a request to the BIA granting FEMA and its consultant permission to conduct the survey on behalf of FEMA.

The November 2022 fieldwork effort consisted of an intensive pedestrian survey of the 57-acre parcel that had not been previously surveyed. The field visit identified six resources near proposed project activities; three of these resources were far enough away from proposed project activities that they would not be impacted by the project. However, three sites are adjacent to proposed project activities. None of these three resources have been evaluated for eligibility to the National Register of Historic Places (NRHP). To minimize adverse effects that might result from intrusive

archaeological investigations, FEMA proposes to treat the three resources as eligible to the NRHP under Criterion D for this Undertaking only.

Impacts of the Proposed Action

Based on the above information, FEMA concluded that the Undertaking would have no adverse effect to historic properties. While there are known cultural resources within the project APE, there is a minimal likelihood that information-bearing archaeological deposits or culturally important features might be disturbed, given the limited areas proposed for ground disturbance. The Tribe would ensure that a tribal cultural resources monitor would be present during ground-disturbing activities to ensure any effects are not adverse. Given the limited nature and vertical extents of the proposed activities within the APE, it is unlikely that previously undetected cultural resources or historic properties would be encountered. If cultural materials or human remains are discovered during ground-disturbing activities associated with the Undertaking, the Tribe would notify FEMA who would follow the process at 36 CFR §800.13(b) for managing post-review discoveries.

FEMA consulted with the SHPO, who concurred that the Undertaking would not adversely affect historic properties on March 24, 2023.

Comparison of Impacts to the PEA Scope

The PEA requires that FEMA comply with Section 106 of the NHPA by conducting any necessary surveys and consulting with the SHPO. FEMA has fulfilled its responsibility under the NHPA and made a finding of no adverse effect if the Proposed Action is implemented. The SHPO has concurred with this finding.

3.8. Socioeconomics

Existing Conditions

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

Using demographic indicators, environmental justice populations are defined using the following criteria:

- The minority or low-impact population of the affected environment equals or exceeds the 50th percentile compared to the statewide average.
- One or more of the EJ Indexes in the affected environment equals or exceeds the 80th percentile compared to the statewide average.

According to EPA's EJScreen tool, the population of the Tule River Indian Tribe Reservation is in the 31st percentile of minority persons and the 61st percentile of low-income persons as compared to the state averages. The population on the reservation is approximately 47-percent minority and 28-percent below the poverty level. Therefore, there is not a minority population, but the population is considered a low-income population.

Impacts of the Proposed Action

The Proposed Action would not cause any residential or business displacements, or long-term impacts from noise, air quality, or traffic. The project would benefit all residents of the area by reducing wildfire hazards and improving water quality and access to natural resources of the Reservation. In addition, the majority of the work would be conducted in remote areas of the Reservation away from residents. The project would not result in disproportionately high and adverse effects on minority or low-income populations.

The Proposed Action would also improve access and safety for community members visiting the project area. Employment opportunities for indigenous peoples would be provided to implement fuels reduction and reforestation activities. Revenue would also be generated from the sale of timber, and the seasonal logging opportunities would provide jobs for indigenous peoples.

Comparison of Impacts to the PEA Scope

Because impacts are not anticipated on minority or low-income populations, the Proposed Action is consistent with the scope of impacts evaluated in the PEA.

3.9. Public Services and Recreation

Existing Conditions

The project area is in the upper reaches of the Tule River watershed, in the Cascade-Sierra Mountains, within the Tule River Indian Tribe Reservation, and approximately 12.5 miles east of Lake Success in Tulare County, California. The project area is seasonally used by community members for dispersed recreation and personal use forest products (e.g., fuelwood, posts, poles, Christmas trees). The accessible areas of the Black Mountain giant sequoia grove are enjoyed for recreation by community members; however, several of these areas burned at moderate to severe intensities (Tule River Tribe 2018).

Impacts of the Proposed Action

Vehicles and equipment would access the project area via existing logging roads and recreational trails used by the tribal community. These routes have been used for forest and fire management access, including log hauling, for many years. Sections of roads and/or trails may be closed to recreational or personal access during various project activities for community safety considerations. Human activity and the use of heavy equipment would increase during the summer months for

several years. The risk of fire ignition would subsequently increase while project activities are ongoing.

Contour log felling would be beneficial for native vegetation and wildlife, which, in turn, would support recreational and subsistence uses of the land. The use of herbicides could have minor short-term impacts on subsistence gathering (e.g., berry picking, fishing, gathering of forest materials) within the project area. The removal of hazardous fuels would also improve the safety of community members while hiking or hunting. The Proposed Action would benefit public services in the long term by reducing the impact caused by future wildfires and erosion, which would result in less of a demand on emergency operations and response.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on public services and recreation would be similar to the impacts evaluated in the PEA. The PEA describes potential short-term impacts on site access and emergency response from a variety of activities.

3.10. Transportation

Existing Conditions

Two primary routes would be used to access the project area. Access from the north is via State Highway 190 at the community of Camp Nelson. Forest Road 21S94 (Sequoia National Forest) provides access from Camp Nelson into the project area through the north Reservation boundary. A second route accesses the project area from the south, via Reservation Forest roads and BIA Route 70 through the Tule River Indian Tribe community. The BIA Route 70 road segment extends from the west Reservation entrance to Chololllo Campground. Both routes have been used for forest and fire management access, including log hauling, for many years.

Impacts of the Proposed Action

No short- or long-term impacts on the regional transportation network of Tulare County are anticipated. Several existing temporary spur roads, which are currently closed, would need to be reopened to implement project activities. The Proposed Action includes a number of activities to address transportation impairments in the project area. Roads damaged by fires and subsequent erosion and debris would be regraded and damaged culverts would be replaced. Many new culverts would be installed for better stormwater drainage and erosion-control measures would be installed to prevent further soil erosion on the edge of roads, trails, and bridges. Warning signs advising of the potential for danger or hazardous conditions would be installed, as needed, throughout the project area. In the long term, project activities would benefit residents and emergency response vehicles.

Comparison of Impacts to the PEA Scope

The proposed activities related to road and drainage improvements and restoration of damage caused by wildfire, erosion, and stormwater runoff and debris are described in the PEA. The short-

and long-term impacts of those activities are evaluated in the PEA. The impacts of the Proposed Action on transportation would be the same as the impacts evaluated in the PEA.

3.11. Noise

Existing Conditions

The project area is in the mountains above the San Joaquin Valley, within the rural, forested Tule River Indian Tribe Reservation. Typical noise events in the project area are presently associated with climatic conditions (wind, rain), light traffic noises, and other intermittent sounds related to natural resource use and management, such as logging or hunting.

Impacts of the Proposed Action

The Proposed Action would result in minor short-term noise impacts from the operation of vehicles and equipment used to implement the Proposed Action. The noise produced would be similar to the existing conditions of forest management and subsistence and recreational uses. In the long term, the project is not expected to cause any noise impacts or be a new source of noise.

Comparison of Impacts to the PEA Scope

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

3.12. Hazardous Materials and Wastes

Existing Conditions

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

Impacts of the Proposed Action

Implementation of the Proposed Action would require using motorized equipment and vehicles that could result in the accidental release of petroleum materials in the short term. The herbicide Milestone™ (the Safety Data Sheet is provided in Appendix A) would be applied to remove noxious weeds across approximately 400 to 500 acres of the burned area. If used and stored in accordance with tribal, state, and federal regulations, herbicides would not be expected to result in adverse impacts related to human health or the natural environment. There may be some negligible short-term adverse impacts on plants and terrestrial habitats, but there would be long-term moderate

benefits from the reduction in noxious weeds and the reestablishment of native vegetation and habitats.

Comparison of Impacts to the PEA Scope

The impacts of the Proposed Action on hazardous materials would be similar to the impacts evaluated in the PEA. However, the PEA does not allow the use of the herbicide Milestone™ within 200 feet of waterways, even though it is approved by EPA for use up to the edge of waterbodies. The PEA requires the use of glyphosate-based herbicides between 50 and 200 feet of waterbodies, although the glyphosate herbicides have increasingly been linked to impacts on the natural and human environment and are discouraged from use by agencies such as the National Marine Fisheries Service. It is expected that the use of Milestone™ would have fewer impacts on the natural environment than the glyphosate herbicides evaluated in the PEA. BMPs to minimize effects similar to those described in the PEA would be implemented under the Proposed Action.

The PEA requires that the Tribe follow tribal, state, and federal regulations for the handling and disposal of hazardous materials. If used and stored in accordance with these regulations, herbicide treatments would not be expected to result in adverse impacts related to human health or the natural environment. The PEA concludes that—with implementation of applicable BMPs for Water Resources described in Appendix C of the PEA (List of Typical Best Management Practices)—the Proposed Action would have minor short-term impacts. In the long term, the Proposed Action would benefit the project area by reducing wildfire risk and reducing the extent of invasive, non-native species.

3.13. Visual Resources

Existing Conditions

The landscape within the project area is a natural forest setting, at high elevation, in steep and rugged terrain. The views tend to be close-up views of forested terrain. Much of the project area was burned, and the viewshed has been altered by the wildfires.

Impacts of the Proposed Action

The Proposed Action would cause negligible short-term impacts on visual resources; however, vehicles, equipment, and work crews would be present in the project area while the project is being implemented. The effects on the scenic qualities in the project area would be similar to the existing routine forest management activities and subsistence and recreational uses. In the long term, visual resources of the project area would be more consistent with the surrounding landscape. Revegetation and soil stabilization activities in the areas with dead trees and soil disturbance would be restored to a more natural appearance. The revegetation would reduce and prevent erosion from forming rills and eroded channels, reduce the formation of bare eroded slopes and debris flows, and restore native vegetation that was lost in 2017.

Comparison of Impacts to the PEA Scope

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

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

3.14. Cumulative Impacts

Cumulative impacts represent the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.1).

Several other projects are anticipated to occur in the project area. The PBO for the Tule River Indian Tribe's Integrated Resource Management Plan describes a number of general activities characterized as: (1) forest and woodland management, (2) wildland fire management, (3) range management, (4) road and trail maintenance, (5) recreation management, (6) habitat management, and (7) ecological mitigation and restoration. It is unknown which activities and specific projects would occur in the project area; however, these ongoing activities would be implemented by the Tribe, as needed. The Tribe would implement these activities on small areas of the Reservation at any one time, using the same types of equipment and methods described in this SEA. The PBO on the Integrated Resource Management Plan establishes a tiered approach to evaluate effects on federally listed species once specific projects are defined and requires conservation measures be implemented to avoid or minimize effects on federally listed species. These conservation measures would also avoid or minimize impacts on other biological resources discussed in this SEA. Hence, there would be minor short-term impacts and long-term cumulative benefits on biological resources from implementation of the Tule River Indian Tribe's Integrated Resource Management Plan combined with the Proposed Action.

Construction and implementation of these actions could have short-term impacts on soils, air quality, climate, water resources, public services and recreation, transportation, noise, hazardous materials, and visual resources from construction activities and vegetation removal. These projects, if implemented within the same time and space as the Proposed Action, may have short-term minor cumulative construction-related impacts. However, it is unlikely that there would be significant cumulative impacts because, in most cases, there would be temporal separation between project activities. These activities would have long-term benefits on soils, air quality, climate, water resources, public services and recreation, transportation, hazardous materials, and visual resources by reducing

the risk of wildfire spread and restoring and managing habitat and recreation areas. Thus, these projects, in combination with the Proposed Action, could result in cumulatively beneficial impacts.

FEMA is not aware of other projects anticipated to occur in or near the project area; therefore, no other cumulative impacts are expected to occur with implementation of the Proposed Action.

4. Best Management Practices, Minimization, and Mitigation Measures

In addition to applicable BMPs in Section 4 of the PEA, the following minimization and avoidance measures would be implemented to minimize impacts from the project activities analyzed in this SEA.

4.1. Geology, Geohazards, and Soils

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

- Reforestation activities that involve mechanical site preparation would comply with the standards in the Tribe's Forest Management Plan.
- Maximum depth of ground disturbance would be 1 foot.
- Chips would be spread back into the area burned in 2017.
- Root balls would remain in place.
- Soil erosion on steep slopes would be mitigated through contour log felling, installation of water breaks, and mulching with the chips that result from tree and vegetation removal activities.
- Erosion-control measures (such as sandbags, fiber rolls, and straw bales) would be placed on the edge of roads, trails, and bridges to channel water and dam areas to prevent further erosion.

4.2. Air Quality and Greenhouse Gas Emissions

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

- Pile burning will be planned and implemented under a burn plan approved by the BIA Pacific Regional Office. The burn plan will outline site-specific measures for smoke management.
- Planned burning will occur on burn days, as authorized by the San Joaquin Valley Air Pollution Control District.
- Dust abatement on unsurfaced roads will be applied while fuels reduction operations are active. This is a standard requirement on Tribal projects, particularly during the drier summer months.

The following measures from the Pier Fire Environmental Assessment will be incorporated into project guidelines to minimize ignition risk and maintain adequate fire protection:

- Fire tools and/or equipment will be kept on-site while operations are active during fire season.
- Accumulations of slash generated from tree falling will be treated by a combination of chipping, lopping, and scattering along the ground surface, mechanical crushing, and/or piling for later burning.
- Warming fires for project personnel are subject to approval by the Tribal Wildland Fire Department and permitted only at designated locations.
- The measures identified under Roads and Community Safety are applicable to fire protection.

4.3. Biological Resources

Implementation of the following BMPs outlined in the PEA would avoid or minimize potential impacts on migratory birds:

Raptors

- Preconstruction surveys for raptors, other special-status birds, and appropriate nesting habitat will be conducted within 50 feet of each construction area no more than 3 days prior to ground-disturbing activities. If an active nest is found, the state or tribal agency (i.e., California Department of Fish and Wildlife or the Tule River Indian Tribe Department of Natural Resources, as appropriate) will be consulted to determine the appropriate buffer area to be established around the nesting site and the type of buffer to be used. If establishment of a buffer is not feasible, the appropriate agency will be contacted for further avoidance and minimization guidelines.
- A qualified biologist will conduct weekly monitoring during construction to evaluate the identified nest for potential disturbances associated with construction activities. Construction within the buffer is prohibited until the qualified biologist determines the nest is no longer active.
- If an active nest is found after construction begins, construction activities within the vicinity of the nest will stop until a qualified biologist has evaluated the nest and established the appropriate buffer around the nest. If establishment of the buffer is not feasible, the appropriate agency will be contacted for further avoidance and minimization guidelines.

Migratory Birds

The measures below would be implemented for construction work during the nesting season (February 15 through August 31).

- A qualified biologist will conduct preconstruction surveys for nesting migratory birds in the project area no more than 3 days prior to the start of ground-disturbing activities. If preconstruction surveys indicate the presence of any migratory bird nests where activities would directly result in bird injury or death, a buffer zone of 50 feet will be placed around the nest.

- Buffers will be established around active migratory bird nests where project activities would directly result in bird injury or death. The size of the buffer may vary for different species and will be determined in coordination with the responsible agency. A qualified biologist will delineate the buffer using appropriate fencing, pin flags, and/or yellow caution tape.

- Buffer zones will be maintained around all active nest sites until the young have fledged and are foraging independently.

- If an active nest is found in an area after construction begins, construction activities within the vicinity of the nest will stop until a qualified biologist has evaluated the nest and established the appropriate buffer around the nest. If establishment of the buffer is not feasible, the responsible agency will be contacted for further avoidance and minimization guidelines.

In addition, to avoid or minimize impacts on threatened or endangered species, the following conservation measures for wildland fire management activities, as described in the PBO issued to BIA for impacts of forest management activities on the Tule River Indian Tribe Reservation (USFWS 2022), would be implemented:

- During fuels management activities, an average of four to six large-diameter snags per acre will be retained. Additionally, clumps of snags will be retained for desired snag habitat.

- Trees known to contain avian nests or wildlife dens, or that show visible signs of prior nesting/denning activity, will be protected during wildland fire management activities.

- Large woody debris will be retained during wildland fire management activities. Selected large-diameter logs, and/or longer portions of felled dead trees, will be placed along the ground surface and distributed across the harvest area for wildlife use.

- Selected slash piles created during fuels reduction and other vegetation manipulation projects will be permanently left unburned and distributed throughout the project area for wildlife use.

- Within fuels management activity areas, pockets of untreated stands of trees will be identified and remain undisturbed during project activities to maintain forest cover, structure, and diversity.

- No mature giant sequoia or California black oak trees will be marked for removal.

- Herbicide application methods and rates will conform to label instructions and all applicable Environmental Protection Agency regulations and restrictions.

- Equipment will be excluded within a protection zone extending 75 to 150 feet from the edge of perennial streams during fire management activities. Actual distance varies by slope gradient, soil type, and extent of vegetative ground cover. Within protection zones, existing canopy cover will be maintained.

- Equipment will be excluded within a protection zone extending 50 to 75 feet from the edge of intermittent streams during fire management activities. If water is present, a 75-foot protection zone will be implemented. If the watercourse is dry, equipment may be permitted within 50 feet of the channel. The width of the protection zone varies by slope gradient, soil type, and extent of vegetative ground cover. Within protection zones, existing canopy cover will be maintained.

- During wildland fire management activities, meadows and wetlands will be flagged and avoided.

- Heavy equipment will not operate on saturated or excessively wet soils.

The following species-specific measures will be implemented during the Tribe's wildland fire management activities and proposed projects that contain those activities:

- The creation of permanent or otherwise continuous areas of open habitat in potential fisher denning habitat will be avoided. If needed to meet watershed protection objectives, fuels reduction activities that create areas of open habitat will be focused on ridgetops and other areas that support lower vegetation densities.

- In potential fisher denning habitat, a limited operating period will be implemented from March 1 through May 1 for prescribed fire projects (see exemptions below).

- When fuels management activities are implemented within or adjacent to potential fisher denning habitat, measures will be implemented to protect habitat structures, such as large-diameter live and dead conifers, hardwoods, clumps of dense overstory and understory trees, down woody material, and trees with cavities and other structural deformities.

- Where ecologically appropriate, multistory conditions and understory heterogeneity will be retained to avoid reducing habitat quality for fisher.

- If at all possible, known fisher den and rest trees will not be targeted by hazard tree removal activities. Trees that surround a known den or rest tree that could provide protection from weather or predators will also be retained if feasible. If a known fisher den tree must be removed, a March 1 to June 30 limited operating period will be implemented for this activity (see exceptions below).

- Any den structure known to have been active within the past five years will be buffered by 60 acres of the most suitable, connected habitat available. If 60 acres of suitable habitat are not available surrounding the den site, the buffer will consist of the amount of suitable habitat available near the den. Fuels reduction work within the buffer is permissible, provided the buffer area continues to meet the criteria of the fisher habitat category it falls into prior to the start of activities (e.g., high-quality fisher denning habitat must remain high-quality fisher denning habitat). If the den buffer must be impacted through hazard tree removal, possibly including the den tree itself (see previous measure), USFWS will be consulted for any special protections to implement within the buffer area.

- Conduct camera surveys where appropriate to determine whether fisher are absent from the project area following protocols approved by the USFWS (see exceptions below).
- Mature giant sequoias and other conifer trees containing large cavities will be protected as potential condor nesting sites.
- Fuels reduction measures will be employed around the giant sequoia tree that was an active condor nest site in the 1950s.
- In advance of roadside fuels reduction activities in Springville clarkia habitat, the involved field personnel will visit the known roadside populations of this species during the blooming period for a field identification refresher and to flag the populations for avoidance. While conducting roadside fuels reduction activities, field personnel will scan the work area for Springville clarkia and will flag and avoid any additional populations that are identified.

The BIA-USFWS PBO (USFWS 2022) describes the following exceptions to the conservation measures:

The Tribe's goal is to implement conservation measures consistently across projects, but project logistics and special circumstances will cause the Tribe to deviate from that goal. For example, though many projects may conduct camera surveys and follow a limited operating period to avoid the breeding season, these conservation measures will not be implemented for every project. Camera surveys can be used to determine whether implementing a limited operating period is warranted within a project action area as well as identifying overall presence of fisher on the Reservation. Official protocols approved by USFWS will be followed to determine whether fisher are absent from the project area, and a limited operating period will not be followed if fisher are determined to be absent. The Tribe may also not be able to follow a limited operating period for all projects (e.g., where post-fire roadside hazards need to be cleared to ensure access in case of emergencies). Thus, camera surveys and following a limited operating period are not required measures the Tribe will follow on every project, and instead are used to determine whether communication with USFWS is required. In cases where the conservation measures to protect fisher cannot be followed completely (i.e., protect fisher habitat and denning fisher) then coordination with USFWS will be conducted to determine whether the project is not likely to adversely affect the fisher or is likely to adversely affect the fisher.

4.4. Cultural Resources

The Tribe would ensure a tribal cultural resources monitor will be present to observe all ground-disturbing activities. The monitor would be authorized to redirect work should crews encounter a previously undocumented cultural resource or affect a known resource in an unanticipated manner. In the unlikely event that cultural materials or human remains are discovered during ground-disturbing activities associated with the Undertaking, the Tribe would notify FEMA, who would follow the process at 36 CFR §800.13(b) for managing post-review discoveries.

Before initiating ground-disturbing activities within the APE, the Tribe would alert on-site personnel to the possibility of encountering prehistoric or historic period cultural materials. Personnel should be advised that, upon the discovery of cultural deposits, work in the immediate area of the find should cease, and FEMA and the SHPO should be contacted immediately. FEMA and the SHPO would then identify appropriate next steps, if any, consistent with 36 CFR §800.13(b).

4.5. Transportation

The operation of equipment, falling of trees, and truck traffic can present safety hazards for forest users. The following measures from the Pier Fire East EA (Tule River Indian Tribe 2018) will apply while project activities are underway:

- Road closures will be enforced when tree felling and skidding activities are active along forest roads. These closures will be temporary so as not to obstruct access for emergency services.
- Roads will not be blocked overnight or for extended time periods and will be kept clear and passable for emergency personnel.
- Truck warning signs will be posted along routes used by log trucks and other heavy equipment.
- Log trucks will be limited to a speed limit of 20 miles per hour (mph) on Tule River Indian Reservation unsurfaced roads and 25 mph on surfaced roads.
- Dust abatement measures will be required for log truck routes and active log landings.
- Log hauling on weekends and official Tule River Indian Reservation holidays may be restricted, per the discretion of the Tule River Indian Tribal Council.

4.6. Hazardous Materials and Wastes

The implementation of environmental mitigation measures and BMPs addressed in the PEA and Pier Fire East EA (Tule River Indian Tribe 2018) would make hazardous material releases or accidents unlikely and would ensure that any accidental release would be finite and localized.

- Application of herbicides would occur in the spring via targeted spraying (i.e., there would be no broadcast spraying) with gas-powered pumps and backpack sprayers.
- A buffer of 50 feet would be implemented around all waterbodies; noxious weeds within this 50-foot buffer would be removed by hand.

5. Public Involvement

The Proposed Action was included in an extensive public engagement process as part of the Final Programmatic Environmental Assessment Recurring Actions in Arizona, California, and Nevada. The Draft PEA was circulated to interested public and government agencies and made available online to the general public for review and comment. The PEA was available for a 30-day comment period. A FONSI was issued on December 10, 2014.

This SEA will be made available for agency and public review and comment for a period of 30 days. The public information process will include a public notice with information about the Proposed Action in The Porterville Recorder. The SEA is available for download at https://tulerivertribe-nsn.gov/news/. A hard copy of the SEA will be available for review at the Tule River Tribal Office, 340 N. Reservation Rd., Porterville, California.

Interested parties may request an electronic copy of the SEA by emailing FEMA at FEMA-RIX-EHP-Documents@fema.dhs.gov. This SEA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration comments submitted during the 30-day public review period. The public is invited to submit written comments via email to FEMA-RIX-EHP-Documents@fema.dhs.gov or via mail to:

Federal Emergency Management Agency Region 9
Environmental Planning and Historic Preservation
1111 Broadway, Suite 1200
Oakland, CA 94607
Attn: Tule River Tribe Fuels Reduction Project SEA Comments

If FEMA receives no substantive comments from the public and/or agency reviewers, FEMA will adopt the SEA as final and will issue a FONSI. If FEMA receives substantive comments, it will evaluate and address comments as part of the FONSI documentation or in a Final SEA.

6. Conclusion

Although the range of actions evaluated in the PEA does not address post-fire activities, which were added as eligible activities after the PEA was published, nor does it address the use of the herbicide Milestone™, the impacts of the actions described in the PEA are similar to the potential impacts of implementing the Proposed Action. The PEA adequately describes the affected environment and the environmental consequences of the No Action alternative for all resource areas and the impacts of the Proposed Action are assessed in this SEA. FEMA, Cal OES, and the Tribe have not identified public controversy regarding implementation of the Proposed Action.

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

7. List of Preparers

The following is a list of preparers who contributed to the development of the Tule River Tribe Fuels Reduction draft SEA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others contributed, including senior managers, administrative support personnel, and technical staff, and their efforts in developing this draft SEA are appreciated.

Federal Emergency Management Agency

Reviewers		Role in Preparation
Holm, Lisa	Acting Regional Environmental Officer	Technical Review
Klein, Chelsea	NEPA Specialist	Technical Review and Approval
Roberts, Lisa	Biologist	ESA compliance

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Jones, Jennifer	Biologist	NEPA Documentation
Medin, Anmarie	Archaeologist	NEPA Documentation
Roberts, Jessica	Environmental Engineer	NEPA Documentation
Stenberg, Kate	PhD, Senior Biologist, Senior Planner	Quality Control/Technical Review

This document was prepared by CDM Smith under Contract No. 70FA6020D00000003, Task Order No. 70FA6023F00000041.

8. References

California Environmental Protection Agency Air Resources Board. 2007. *Fugitive Dust Control Self-Inspection Handbook*. Accessed July 29, 2020, https://www.arb.ca.gov/pm/fugitivedust_large.pdf.

Council on Environmental Quality (CEQ's). 2016. Final NEPA Guidance on Consideration of Greenhouse Gas Emissions and the Effects on Climate Change. Available at: https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf.

Environmental Protection Agency (EPA). 2023a. Ingredients Used in Pesticide Products: Glyphosate. Accessed November 8, 2023. Available at: https://www.epa.gov/ingredients-used-pesticide-products/glyphosate.

_____. 2023b. Climate Impacts in the Southwest. Accessed January 4, 2023. https://climatechange.chicago.gov/climate-impacts/climate-impacts-southwest

_____. 2021IRWMP. (As referenced in the USFWS 2022 Programmatic Biological Opinion)

Federal Emergency Management Agency (FEMA), Region 9. 2014. Final Programmatic Environmental Assessment Recurring Actions in Arizona, California, and Nevada, December 2014.

Galloway, R.S. and R. Stevens. 2014. Biological Evaluation for the Tule River Reservation Protection Project. Western Divide Ranger District, Giant Sequoia National Monument, Sequoia National Forest.

Green, R.E., K.L. Purcell, C.M. Thompson, D.A. Kelt, and H.U. Wittmer. 2019. "Microsites and structures used by fishers (Pekania pennanti) in the southern Sierra Nevada: A comparison of forest elements used for daily resting relative to reproduction." *Forest Ecology and Management* 440:131-146. (As referenced in the USFWS 2022 Programmatic Biological Opinion.)

Jump, L. 2004. Black Mountain Giant Sequoia Grove Inventory. Porterville CA: U.S. Dept. of Agriculture, Forest Service. (As referenced in the USFWS 2022 Programmatic Biological Opinion.)

Kinney & Associates. 2013. Tule River Indian Tribe. Water Settlement Technical Report.

Page, R.W. 1983. Water-Resources Investigations Report. Accessed January 6, 2022. https://pubs.usgs.gov/wri/1983/4000/report.pdf.

Saab, V.A., J. Dudley, and W.L. Thompson. 2004. Factors Influencing Occupancy of Nest Cavities in Recently Burned Forests. The Condor 106:20–36. Available at:

https://www.sierraforestlegacy.org/Resources/Conservation/SierraNevadaWildlife/BlackBackedWoodpecker/BBWO-Saab04.pdf.

Spencer, W.D., S.C. Sawyer, H.L. Romsos, W.J. Zielinski, R.A. Sweitzer, C.M. Thompson, K.L. Purcell, D.L. Clifford, L. Cline, H.D. Safford, S.A. Britting, and J.M. Tucker. 2015. Southern Sierra Nevada fisher conservation assessment. Unpublished report by Conservation Biology Institute. January. (As referenced in the USFWS 2022 Programmatic Biological Opinion.)

Thompson, C.M., W. Spencer, H. Romsos, and S. Sawyer. 2020. Southern Sierra Nevada fisher conservation strategy interim recommendations. Unpublished report by Conservation Biology Institute. February. (As referenced in the USFWS 2022 Programmatic Biological Opinion.)

Tule River Indian Tribe. 2022. Natural Resources Webpage. Accessed January 17, 2022. https://tulerivertribe-nsn.gov/departments/forestry-2/.

———. 2018. Environmental Assessment Report for the Pier Fire East Emergency Stabilization and Salvage Sale Projects.

U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). 2022. Web Soil Survey – Map Unit Descriptions. Accessed January 6, 2022. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

U.S. Fish and Wildlife Service. 2022. Programmatic Biological Opinion on the Tule River Tribe Integrated Resource Management Plan for the Endangered Southern Sierra Nevada Distinct Population Segment of the Fisher on the Tule River Indian Reservation, Tulare County, California.

U.S. Geological Survey (USGS). 2021. The National Map – Elevation. Accessed March 5, 2023. https:// nationalmap.gov/viewer/.

Washington State Department of Transportation (WSDOT). 2017. Aminopyralid: Roadside Vegetation Management Herbicide Fact Sheet. (As referenced in the USFWS 2022 Programmatic Biological Opinion.)

Appendix A: Milestone™ Safety Data Sheet

SAFETY DATA SHEET

MILESTONE INSECT SPRAY

Infosafe No.: VARFV
ISSUED Date : 01/03/2022
ISSUED by: Milestone Chemicals Pty. Ltd.

1. Identification

GHS Product Identifier
MILESTONE INSECT SPRAY

Company name
Milestone Chemicals Pty. Ltd. (ABN 85115166357)

Address
115 Northern Road West Heidelberg
VIC 3081 AUSTRALIA

Telephone/Fax Number
Tel: (03) 9450 4555
Fax: (03) 9457 5518

Emergency phone number
(03) 9450 4555 Mon-Fri 8am - 6pm

Recommended use of the chemical and restrictions on use
Insect Spray

2. Hazard Identification

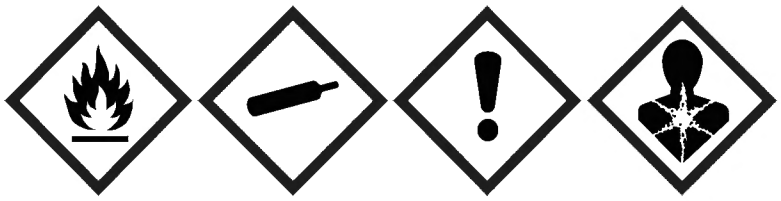
GHS classification of the substance/mixture
Carcinogenicity: Category 2
Eye Damage/Irritation: Category 2A
Flammable Aerosol: Category 1
STOT Repeated Exposure: Category 1
STOT Single Exposure: Category 1

Signal Word (s)
DANGER

Hazard Statement (s)
H222 Extremely flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statement – General
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.

Pictogram (s)
Flame,Gas cylinder,Exclamation mark,Health hazard



Precautionary statement – Prevention
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P262 Do not get in eyes, on skin, or on clothing.
P271 Use only outdoors or in a well-ventilated area.
P281 Use personal protective equipment as required.

Precautionary statement – Response
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P314 Get medical advice/attention if you feel unwell.

Precautionary statement – Storage
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF.

3. Composition/information on ingredients

Ingredients

Name	CAS	Proportion
Ingredients determined not to be hazardous		to 100%
Dichloromethane	75- 09- 2	10- 30 %
Ethanol	64- 17- 5	10- 30 %
Propane	74- 98- 6	10- 30 %
Butane	106- 97- 8	10- 30 %
Tetramethrin	7696- 12- 0	0- 1 %
Bioresmethrin	28434- 01- 7	0- 1 %

4. First-aid measures

Inhalation
Do not breathe vapour. Remove victim to fresh air. Keep victim warm and calm. If patient is unconscious and breathing, place them in the coma position, check airway and observe. Administer oxygen if breathing is difficult. Apply resuscitation if victim is not breathing. Obtain immediate medical care.

Ingestion
Do NOT induce vomiting. Give a glass of water to be taken slowly and seek medical advice.

Skin
Remove contaminated clothing. Wash area thoroughly with soap and water.

Eye contact
If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

First Aid Facilities
Eye wash station and normal washroom facilities.

Advice to Doctor
Product contains a very low proportion of two synthetic pyrethroid insecticides in hydrocarbon solvents. Contact Poisons Information Centre.

5. Fire-fighting measures

Suitable Extinguishing Media
Small fire: Use water spray, dry chemical or carbon dioxide.
Large fire: Use water spray or fog.

Hazards from Combustion Products
Heat or damage to containers can release flammable / poisonous gases.
Extremely flammable. Pressurised dispenser. Closed containers may rupture when exposed to heat greater than 50 C. Ruptured containers will rocket. Released gases can form explosive mixtures with air. Hazardous concentrations can accumulate in a confined space. Released gases can travel to source of ignition and flash back. Fire can produce irritating, poisonous and corrosive gases. Propellant is extremely flammable and heavier than air.

Special Protective Equipment for fire fighters
High concentration of gas could cause dizziness or asphyxiation without warning. Released gases are harmful. Wear SCBA and protective gloves. If large amounts are involved, wear SCBA and chemical splash suit.

Specific Methods
Fight fire from protected position or use unmanned hose holders or monitor nozzles. If safe to do so, move undamaged containers from fire area. Do not approach hot containers. Cool containers with water before handling. If impossible to extinguish fire, protect surroundings, withdraw from are and allow fire to burn.

Hazchem Code
2YE

6. Accidental release measures

Emergency Procedures
Immediately contact police or fire brigade. Spill or leak area should be isolated immediately for at least 8 m in all directions. Eliminate all sources of ignition within at least 15 m. Keep unauthorised personnel away. Keep upwind and to higher ground. When a large quantity is involved in a fire, consider initial evacuation for at least 100 m in all directions. Send message to police and fire brigade. Tell them the location, material, UN Number, quantity and emergency contact as well as damage observed.

Spills & Disposal
Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 15 m. All equipment used when handling the product must be earthed. If water is available, spray leaking containers to reduce ignition hazard and disperse gas. Isolate area until gas has dispersed. Ventilate area. Avoid release to the environment. Do not empty into drains. Absorb in inert absorbent material for disposal by an approved method and / or local regulations.

7. Handling and storage

Precautions for Safe Handling
Spray in a well ventilated area. Do not breathe vapour. Local exhaust ventilation may be necessary to minimise excessive vapour concentration, if levels are likely to be high or in a confined space. Avoid static charge and discharge with high concentrations and in confined space.

Conditions for safe storage, including any incompatibilities
Store in a well ventilated area. Pressurised dispenser. Protect from sunlight and do not expose to temperatures exceeding 50 C. Do not pierce or burn this can, even when empty. Store away from corrosive products. Store in accordance with Dangerous Goods Regulations and transport in accordance with the ADG Code for Dangerous Goods Class 2.1

8. Exposure controls/personal protection

Occupational exposure limit values

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Ethanol		TWA	1000	ppm	
Ethanol		TWA	1880	mg/m3	
Butane		TWA	800	ppm	
Butane		TWA	1900	mg/m3	
Dichloromethane		TWA	50	ppm	
Dichloromethane		TWA	174	mg/m3	

Other Exposure Information

TLV-STEL: None assigned.
[NOHSC] - National Occupational Health & Safety Commission (Worksafe Australia)
TWA for Butane is 800ppm
Propane is an asphyxiant

Appropriate engineering controls

Local exhaust ventilation may be necessary to minimise excessive vapour concentration, if levels are likely to be high or in a confined space.

Personal Protective Equipment

Avoid spraying onto eyes and skin. Avoid breathing the vapour. Personal protection to be selected from those recommended below, as appropriate to mode of use, quantity handled and degree of hazard:-
Goggles, face shield or safety glasses
Gloves, nitrile or high grade PVC
Wear safety glasses and protective gloves. Wear respirator complying with AS1715 and AS1716 if concentration levels are high.
Always maintain a high level of personal hygiene when using this product. That is wash hands before eating, drinking, smoking or using the toilet.

9. Physical and chemical properties

Properties	Description	Properties	Description
Form	Liquid	**Appearance**	Aerosol, fine clear spray
Odour	Solvent odour.	**Boiling Point**	201-243
Solubility in Water	Insoluble	**Specific Gravity**	0.58 approx.
pH	Not applicable	**Flash Point**	-104 to -60°C
Flammability	Extremely flammable.	**Flammable Limits - Lower**	1.5% in air (v/v)
Flammable Limits - Upper	9.6% in air (v/v)		

Other Information

Container under pressure.

10. Stability and reactivity

Chemical Stability

Stable under normal use conditons.

Conditions to Avoid

Heat, flames and sparks. Avoid static charge and discharge with high concentrations and in confined space. Avoid damp conditions.

Incompatible materials
Can react violently with oxidising agents – chlorine, pool chlorine or nitric acid.

Hazardous Decomposition Products
Not available.

11. Toxicological Information

Acute Toxicity - Oral
LD 50 : Synthetic pyrethroids 1,000 - 1,244 mg/kg oral, mouse/rat

Ingestion
Unlikely due to high volatility of product, but is harmful.

Inhalation
May cause light-headedness, dizziness and drowsiness. Excessive exposure may cause unconsciousness or even death, due to asphyxiation.

Skin
May cause cold burn. Irritating to skin.

Eye
Liquid will cause severe damage, vapour may irritate.

Chronic Effects
No data.

12. Ecological information

Ecotoxicity
Propellant will vapourise rapidly when released to atmosphere. Propellant consists of hydrocarbons that photo chemically decompose under atmospheric conditions.

Environmental Protection
Avoid contaminating waterways, drains, sewers, or ground.

13. Disposal considerations

Waste Disposal
Dispose of can by putting in garbage or leaving it at an appropriate metal recycling collection point.

Container Disposal
Do not pierce or burn, even when empty.

14. Transport information

Transport Information
Dangerous Goods of Class 2.1 Flammable Gases, or with a subsidiary risk of 2.1, are incompatible in a placard load with any of the following: - Class 1, Class 3, if both the Class 2.1 and Class 3 dangerous goods are in bulk, Class 4, Class 5, and Class 7.
Classified as a Class 2 Dangerous Good.

U.N. Number
1950

UN proper shipping name
AEROSOLS

Transport hazard class(es)
2.1

Hazchem Code
2YE

IERG Number
49

Special Precautions for User
Spray in well ventilated area. Keep away from sources of ignition – No smoking.
Extremely flammable- Do not spray on a naked flame or any incandescent material.
Keep out of reach of children.

15. Regulatory information

Poisons Schedule
S5

Australia (AICS)
All components listed.

16. Other Information

Date of preparation or last revision of SDS
1/03/2022

References
Preparation of Safety Data Sheets for hazardous Chemicals Code of Practice
Standard for the Uniform Scheduling of Medicines and Poisons
Australian Code for the Transport of Dangerous Goods by Road & Rail
Globally Harmonised System of classification and labelling of chemicals

Signature of Preparer/Data Service
Technical manager Tel: (03) 9450 4555

Technical Contact Numbers
Emergency Advice All Hours:
Chief Chemist Tel: (03) 9450 4555 Mon-Fri 8am - 6pm
Poisons Information Centre: 13 11 26 - 24hrs

Other Information
This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the Workplace. Please refer to the technical datasheet (Instructions for use), and the label on the drum. The company cannot anticipate or control the individual working conditions encountered and so each user should read this SDS carefully, and if in doubt ring the Contact Point Number given below.

END OF SDS