Draft Environmental Assessment

Butte County Wildfire Mitigation Projects

HMGP-4407-020-144, 4407-028-146, 4407-497-056

Butte County, California

April 2024

FEMA

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Region 9
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Acronyms and Abbreviations

°F	degrees Fahrenheit
AA	Action Area
BCFSC	Butte County Fire Safe Council
BMP	best management practice
Cal OES	California Governor's Office of Emergency Services
Cal-IPC	California Invasive Plant Council
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CCV	California Central Valley
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH_4	methane
CNDDB	California Natural Diversity Database
CO_2	carbon dioxide
County	Butte County
CVSR	Central Valley spring-run
CWA	Clean Water Act
Db	decibel
DBH	diameter at breast height
DPS	distinct population segment
EA	environmental assessment
EFH	essential fish habitat
EO	Executive Order
EPA	U.S. Environmental Protection Agency

ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
HMGP	Hazard Mitigation Grant Program
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
msl	mean sea level
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NWI	National Wetland Inventory
PG&E	Pacific Gas and Electric
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 micrometers in diameter
PM_{10}	particulate matter less than 10 micrometers in diameter
ROE	right-of-entry
ROW	right-of-way
RPF	registered professional forester
SHPO	State Historic Preservation Officer
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WUI	wildland-urban interface

SECTION 1. Introduction

Butte County (County) and the Butte County Fire Safe Council (BCFSC) applied to the Federal Emergency Management Agency (FEMA) through the California Governor's Office of Emergency Services (Cal OES) for three wildfire mitigation grants (Disaster 4407) under FEMA's Hazard Mitigation Grant Program (HMGP). BCFSC is a non-profit community organization, formed in 1998, dedicated to providing fire mitigation and recovery services to communities in Butte County (BCFSC 2017). Cal OES is the direct applicant for the grants, and Butte County and BCFSC are the subapplicants. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. FEMA's HMGP provides funding to eligible state and local governments, federally recognized tribal governments, and nonprofit organizations to help implement long-term hazard mitigation measures after a presidential major disaster declaration. The HMGP funds were made available following the disaster declaration made by FEMA in 2018 in response to a series of devastating wildfires in California (FEMA 2022).

The Butte County Local Hazard Mitigation Plan (updated in October 2019) ranks wildfire vulnerability as extremely high and ranks the likelihood of future occurrence as highly likely (Butte County 2019a). In Butte County, the Fire Hazard Severity Zones established by the California Department of Forestry and Fire Protection are in the northern and eastern portions of the County, with approximately half of the County within a "high fire hazard" or "very high fire hazard" zone. **Figure 1-1** depicts the County's overall wildfire risk. A goal of the mitigation strategy is to reduce fire severity and intensity in Butte County and surrounding lands.

Butte County and BCFSC are proposing three wildfire mitigation projects to reduce the risk of wildfire-related impacts on people and property in Butte County. This environmental assessment (EA) considers and analyzes the impacts of each project individually as three separate alternatives proposed by Butte County and BCFSC, which include:

- Alternative 1 (Right of Way (ROW) Project)– removing brush and small trees up to 35 feet from the edges of the road along 12 miles of Skyway (HMGP 4407-020-144)
- Alternative 2 (Assistance Program Project)– providing additional staff to handle the post-fire surge in building permit reviews and inspections (HMGP 4407-189-058)
- Alternative 3 (BCFSC Program Project) – creating defensible space, defined as the removal or reduction of flammable vegetation around the perimeter of homes and structures, at up to 1,400 homesites and standing or downed fire-hazard tree removal at up to 1,200 homesites (HMGP 4407-497-056)

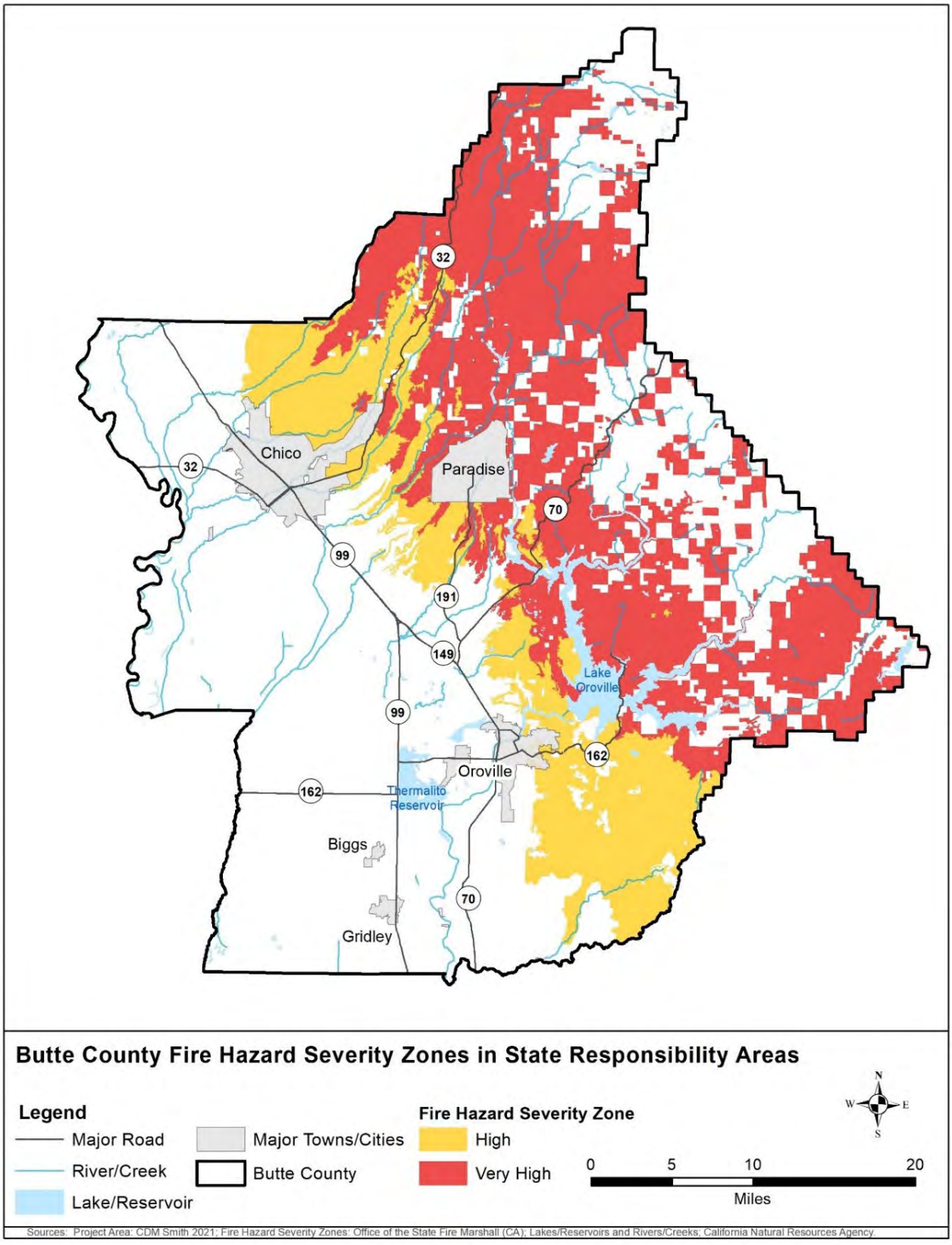


Figure 1-1. Fire Hazard Severity Zones

Butte County and BCFSC intend to implement all three alternatives. Collectively, the three alternatives are referred to as the action alternatives. This EA also considers and analyzes the cumulative impacts of the three alternatives, which are connected actions within the same geographic area with a similar purpose and need. Therefore, any combination of the alternatives may be funded by FEMA for implementation. **Table 1.1** lists the areas that compose the project area for each alternative. The action alternatives would be within the eastern portion of the County, as shown in **Figure 1-2**.

Table 1.1. Project Areas

Project	Project Area
Alternative 1 – County Road Hazardous Fuels Reduction (Right-of-Way [ROW] Project)	12 miles of Skyway within Butte County's existing ROW up to 35 feet from the edges of the road, from Magalia to Stirling City
Alternative 2 – Butte County Building Code Enforcement (Assistance Program)	Camp Fire boundary within Butte County
Alternative 3 – Defensible Space and Hazardous Fuels Reduction Program (BCFSC Program)	Butte County parcels in the wildland-urban interface and within 500 feet of an evacuation route

This EA was prepared to evaluate the action alternatives in accordance with the National Environmental Policy Act (NEPA) of 1969; the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] §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 draft EA is to analyze the potential environmental impacts of the action alternatives. FEMA will use the findings in this draft EA to determine whether to prepare an environmental impact statement or to issue a Finding of No Significant Impact.

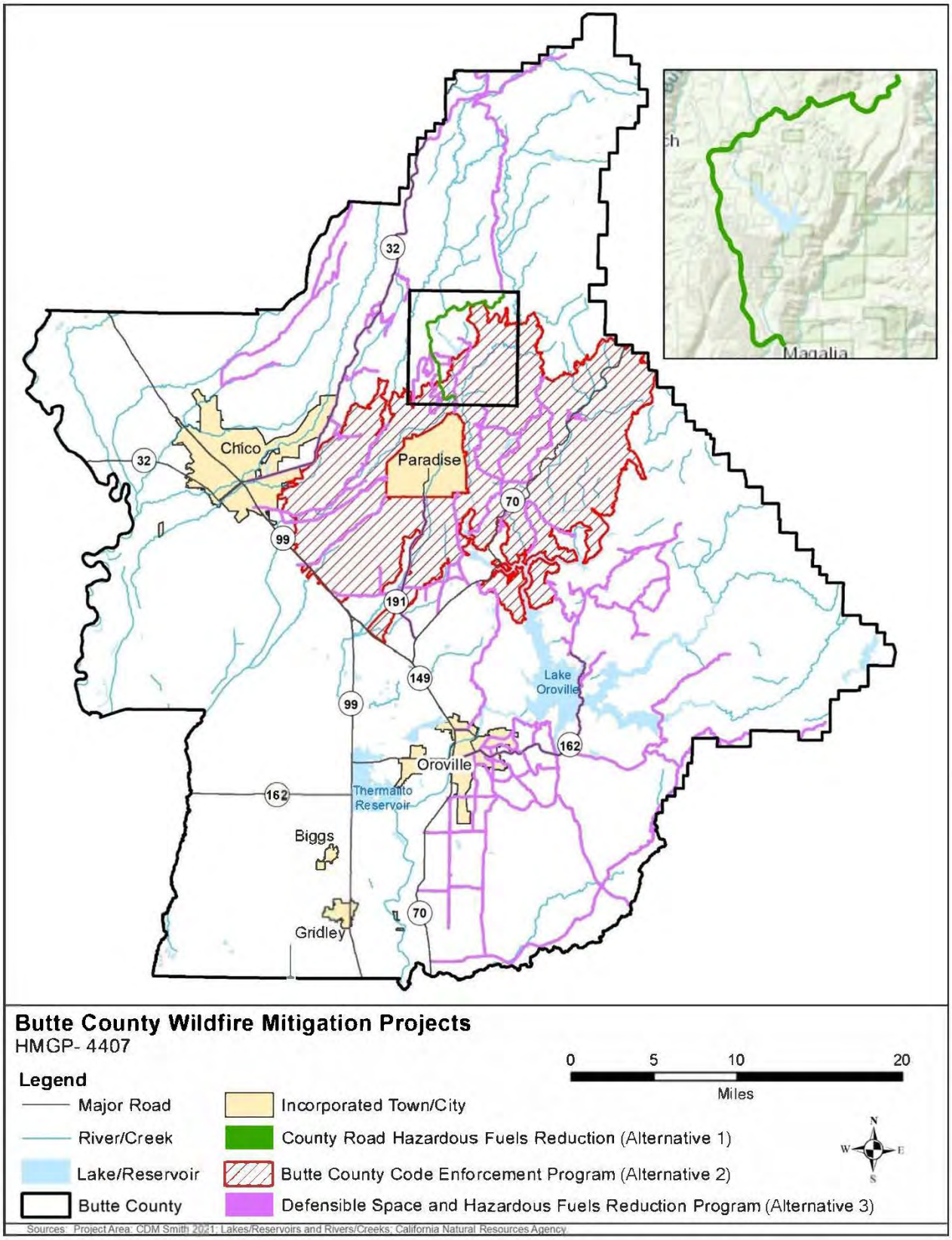


Figure 1-2. Project Area for the Three Alternatives

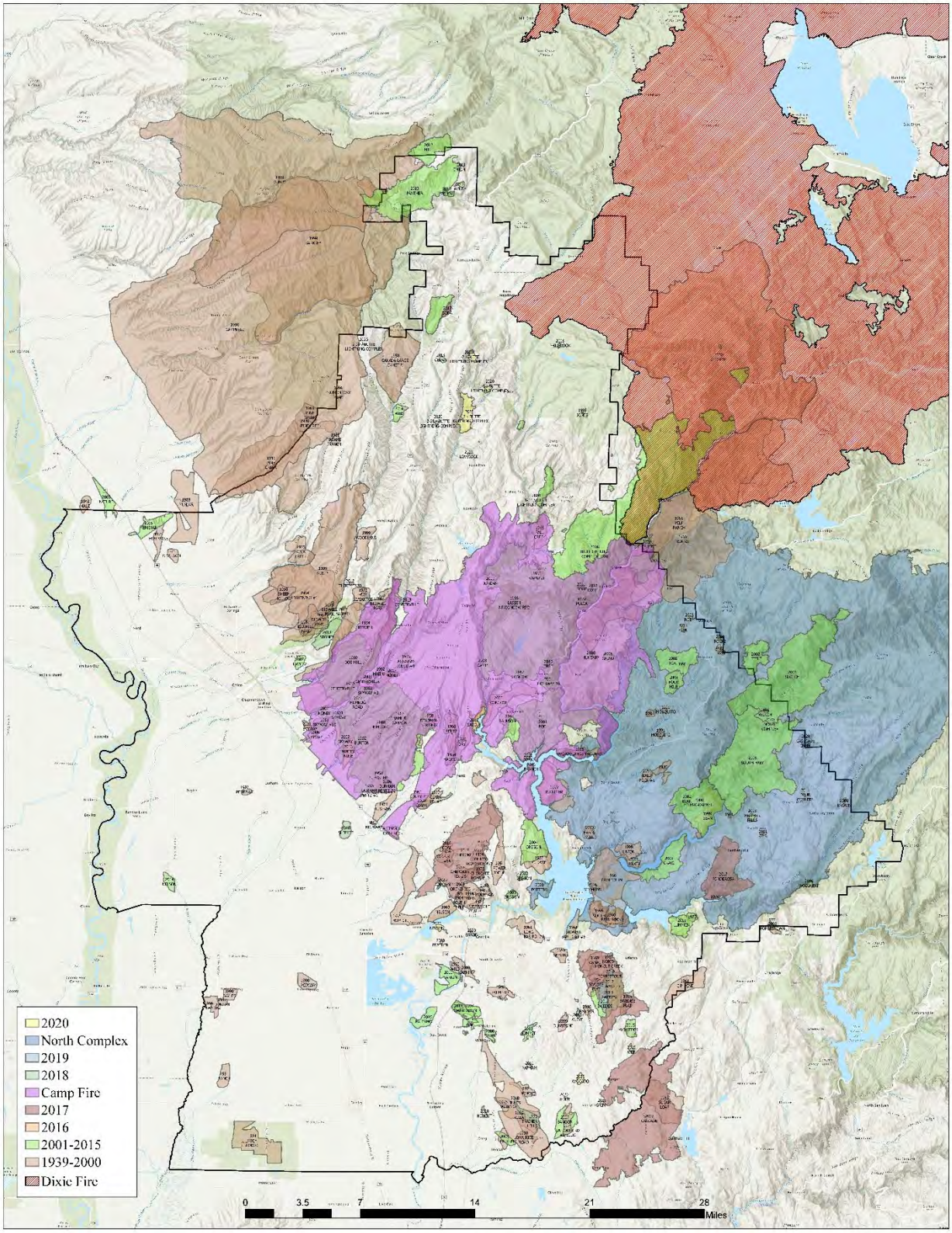
SECTION 2. Purpose and Need

The purpose of FEMA's HMGP is to reduce the loss of life and property resulting from natural disasters and to enable risk mitigation measures to be implemented during the recovery from a declared disaster. The purpose of the action alternatives described in this EA is to reduce wildfire hazards that may threaten life and property and augment completed and ongoing wildfire-hazard mitigation work in Butte County.

Butte County, with a population of approximately 207,000 residents, is on the eastern side of the northern Central Valley in California. The western portion of the County is relatively flat and is predominantly grassland and farmland, while the eastern portion is made up of the foothills and mountainous topography of the northern Sierra Nevada and southern Cascade Mountains. High vegetative fuel loads along with rugged topography create the potential for catastrophic wildfires in Butte County. In November 2018, the Camp Fire was the deadliest and most destructive wildfire in California history. The Camp Fire started near the community of Pulga in Butte County and burned 153,336 acres. In addition to the Camp Fire, Butte County has a history of large fire occurrences. In 1990, the Campbell Fire burned 131,000 acres; in 2001, the Poe Fire burned 8,333 acres and destroyed homes in Concow and Yankee Hill; and in 2008, the Humboldt Fire burned over 23,000 acres and 351 structures near Paradise. Most recently, in 2020, the North Complex Fire burned over 84,000 acres east of Lake Oroville, destroying homes in Berry Creek. The Dixie Fire burned a portion of the Plumas National Forest and threatened Butte Meadows in northern Butte County in 2021.

As human development and populations increase, expanding the wildland-urban interface (WUI) areas where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels, the threat of wildfire and potential losses to life and property also increases. Potential losses from wildfire include human life, structures and other improvements, natural, biological, and cultural resources, quality and quantity of water supplies, cropland, timber, and recreational opportunities. Catastrophic wildfire can also result in post-fire hazards such as flooding, landslides and mudflow, and erosion during the rainy seasons following a fire. According to data from the National Interagency Fire Center (2022), the average wildfire size in the United States has increased from less than 40 acres in the 1980s and early 1990s to more than 160 acres in 2020. From May to October each year, Butte County faces a serious wildfire threat as fires continue to occur.

Dense and dead vegetation and steep slopes along vehicular escape routes increase the fire danger and risk of closure, endangering traffic and preventing people from safely leaving during evacuation warnings and orders. Because of high fuel density adjacent to the evacuation routes, many victims were trapped while attempting to evacuate from the Camp Fire. Dense vegetation around structures or extending up to structures contributes to the loss of property and spread of wildfire through neighborhoods, as was seen during the Camp Fire. In addition, structures destroyed during the Camp Fire constructed before the 2008 adoption of Chapter 7A of the California Building Code were not built to current fire-safe standards, which contributed to the fast spread of the deadly fire (Knapp et al. 2021).



Source: Butte County 2022

Figure 2-1. Butte County Fire History 1939 to 2021

SECTION 3. Project Alternatives

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

3.1. No Action Alternative

The No Action Alternative is included to describe potential future conditions if no additional action is taken to reduce wildfire hazards. Under the No Action Alternative, no FEMA-funded hazardous fuels reduction, code enforcement assistance, or defensible space work would be conducted in Butte County. The ROW Project (Alternative 1) work along Skyway, a major evacuation route for Paradise and the Upper Ridge, would not occur and hazardous fuels within the public ROW would still be present. This would leave the risk for wildfire to easily overtake the roadway unchanged, making evacuation difficult or impossible for residents and affecting emergency responders' ability to access neighborhoods. Without the Assistance Program (Alternative 2), existing County staff would continue to be overburdened by large volumes of residential building permits, which could lead to poor enforcement and implementation of building codes. In addition, review and issuance of building permits would be delayed and residents would need to continue to live in alternative accommodations or move away. Without the BCFSC Program (Alternative 3), hazardous fuels and standing or downed fire-hazard trees would remain on private lands near evacuation routes, leaving wildfire hazards to steadily increase over time.

Under the No Action Alternative, some wildfire-hazard reduction activities might be implemented, but they would not necessarily be focused on the areas of greatest need or risk. Butte County and BCFSC would continue implementing the policies of the Butte County Community Wildfire Protection Plan; however, actions under these efforts would be implemented on a smaller scale and it would take much longer to reach the same number of properties due to limited funds. Existing conditions, including wildfire hazards, would largely remain high, threatening residents and businesses in Butte County with the associated potential for loss of life and property.

Under the No Action Alternative, current wildfire hazards would not be substantially reduced in Butte County, and the probability of loss of life and property in the event of a wildfire would not be reduced to the extent that it would under the action alternatives. Implementation of fire-resilient measures would take much longer and the probability of another catastrophic wildfire occurring before they could be implemented would remain very high.

3.2. Action Alternatives

Butte County and BCFSC are proposing three alternatives, with each alternative to be funded under a separate FEMA grant. The three alternatives include the following: 1) hazardous fuels reduction along the Skyway ROW (ROW Project), 2) assistance with permit review, code enforcement, and education outreach (Assistance Program), and 3) creation of defensible space and hazardous fuels reduction on private properties near evacuation routes (BCFSC Program). Collectively, these are referred to as the action alternatives. Each is described in more detail in the following sections.

3.2.1. PROJECT LOCATION

"Project area," as used in this document, refers collectively to the ROW Project, Assistance Program, and BCFSC Program areas defined under the action alternatives. The action alternatives would be within the eastern portion of Butte County. The boundaries for the Town of Paradise, which is seeking its own HMGP funding for wildfire mitigation projects, is excluded in this EA from the project area. The ROW Project would occur along 12 miles of Skyway, within Butte County's existing ROW, from Magalia to Stirling City. The Assistance Program would include properties within the Butte County portion of the Camp Fire boundary. This EA analyzes the entire Camp Fire boundary within Butte County; however, work under this program would only take place on parcels with building permit applications or where structures have been rebuilt post-fire. The BCFSC Program would treat areas within 500 feet of evacuation routes (**Figure 1-2**) and within 300 feet of selected homesites throughout Butte County's WUI area. This EA analyzes the full area within 500 feet of evacuation routes within the WUI area; however, the final treatment areas would be a smaller area based on participation and further refinement and assessment. Project Duration

All work performed under these action alternatives would be completed within 3 years. The ROW Project would take approximately 6 months. Work would occur over two seasons, starting in early April and ending in late June to avoid both the wet season and the fire season. The Assistance Program would last for approximately 3 years and support Butte County through most of the post-fire rebuilding effort. Defensible space creation and hazard tree removal under Phase 2 of the BCFSC Program would take approximately 15 months. Treatment at each of the potential work sites for the Assistance Program and BCFSC Program would take approximately 1 to 2 days to complete.

3.2.2. ALTERNATIVE 1 – COUNTY ROAD HAZARDOUS FUELS REDUCTION (ROW PROJECT)

Butte County proposes to conduct hazardous fuels reduction within the County's existing ROW along 12 miles of Skyway, from Magalia to Stirling City (**Figure 1-2**). Hazardous fuels reduction involves removing trees, shrubs, ladder fuels, and other vegetation to reduce the fuel load within the ROW. Treatment would focus on removing vegetation that is dead, downed, diseased, dying, or decadent within dense stands of forest and chaparral species. The project would include removing brush, pruning trees, removing and chipping understory trees, and thinning overstory trees. Trees less than 8 inches diameter at breast height (DBH) and brush would be removed. Some trees would be marked for retention to create a shaded fuel break. In addition, larger-diameter trees and chaparral plants with unique structural features and that are on the outer edges of the ROW would be retained to support and promote wildlife species and habitat. Trees that are retained would be limbed and pruned to remove low branches and ladder fuels. Vegetation would be cut in the ROW up to 35 feet from the edges of the road. Chips and cut vegetation would be scattered and left in place, piled and burned in accordance with local air quality standards and burn permit requirements, or hauled to a permitted facility.

Implementation Methods

All trees to be removed would be cut as close to ground level as possible, with the stumps and root balls left in place. Cut stumps would not exceed 4 inches from the ground. The distance between

trees would be determined by the slope of the area, with a minimum distance of 15 feet between tree canopies. Limbing and pruning would be done by hand, and masticators mounted on excavators would be used to masticate brush and small trees. Tracked masticators would have rubber pads to reduce damage to roadways and native surfaces. The masticator would spread vegetative debris over the project area, and chips would be left where they fall. Other cut vegetation would either be chipped and scattered or piled and burned in accordance with local air quality standards and burn permit requirements, depending on site-specific conditions. If excessive debris is generated that cannot be addressed by the aforementioned actions, it would be hauled to a permitted facility for appropriate green waste disposal. Larger logs would be lifted, not skidded, out of the ROW onto trucks to be hauled off for disposal.

All work and staging would be within the County ROW. Staging would occur along the roadway and paved or gravel shoulder areas. All staging would be kept at least 300 feet from any vernal pool, vernal pool grassland, or wetland. Lowboy trucks and trailers would be used to transport equipment to daily job sites and to return the equipment to one of the nearby Butte County Department of Public Works fleet service shops for fueling and maintenance at the end of each day. Equipment used would include excavators, tracked mulching tractors, brush rake tractors, tracked and conventional chippers, and hand-held tools. Work would be conducted by one crew consisting of traffic controllers, equipment operators, and a crew supervisor. Field personnel would attend a mandatory environmental education program, and a biologist would monitor all vegetation removal activities proposed in suitable habitat and that could potentially impact special status species. Any vernal pool, vernal pool grassland, or wetland would be protected from sedimentation and contaminant runoff by use of erosion controls, and all equipment would remain at least 300 feet from vernal pool habitats, unless on a paved or graveled roadway. No vegetation removal would be performed near any wetlands, ponds, or rivers and a minimum 25-foot to 150-foot buffer would be placed around these resources, dependent upon stream class and slope, as recommended by the National Marine Fisheries Service (NMFS) to FEMA during review of Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619). No material would be placed in streams, vernal pools, or wetlands. The crew would direct traffic around equipment along the roadside and would have onboard water tanks with pumps to extinguish any sparks created during operation.

3.2.3. ALTERNATIVE 2 – BUTTE COUNTY BUILDING CODE ENFORCEMENT (ASSISTANCE PROGRAM)

The proposed Assistance Program would ensure that structures being rebuilt within the Camp Fire boundary comply with the ignition-resistant construction standards required in unincorporated areas of Butte County. The project would provide Butte County with additional staff to handle the post-fire surge in building permit reviews and inspections, public assistance and education, and code enforcement for public safety and compliance with building codes for wildfire-resistant construction.

Implementation Methods

Because of the high volume of residential building permit applications following the Camp Fire, Alternative 2 would provide additional interim staff, equipment, and contract services to help clear the increased demand for permits and ensure the Butte County Building Division accurately enforces

ignition-resistant construction standards. Financial assistance would be provided for the following activities: 1) building permit direct services consisting of the review, issuance, and inspection of post-fire building permits; 2) ombudsman services to assist customers with the rebuild process; 3) office and field staff to support permit tasks; 4) education and outreach; 5) code enforcement activities on public safety issues; 6) coordination between various agencies; and 7) general program administration. The overall objective of the Assistance Program is to help alleviate the burdens associated with rebuilding and recovering from the Camp Fire through permit issuance and coordination and to ensure that rebuilt structures comply with ignition-resistant standards through local code enforcement for a more resilient community.

All rebuild construction located in any Fire Hazard Severity Zone within State Responsibility Areas or any WUI Fire Area would be permitted consistent with California Building Standards Code Chapter 7A and California Residential Code Section R337 (Materials and Construction Methods for Exterior Wildfire Exposure). Butte County has also adopted the California Building Standards Code (California Code of Regulations, Title 24) requirements on building in sensitive areas and within designated floodplains and these requirements would be applied to all structures being rebuilt. Permits issued under this program would not limit the size of the structures being rebuilt. The intent of the program is to provide necessary resources for recovery, and there is no substantial time savings or loss associated with reviews for structures being rebuilt larger or smaller than those that were lost in the fire. Therefore, if allowed by state and county building codes and county zoning, the footprint of rebuilt buildings could expand beyond the original footprint of the former building. Alternative 2 does not include assistance for construction.

3.2.4. ALTERNATIVE 3 – DEFENSIBLE SPACE AND HAZARDOUS FUELS REDUCTION PROGRAM (BCFSC PROGRAM)

BCFSC proposes to reduce the risk of wildfire-related hazards by assisting interested property owners with creating defensible space and reducing hazardous fuels at eligible homesites that are both within the WUI area and within 500 feet of a main evacuation route (**Figure 1-2**). The project would help to create defensible space at up to 1,400 homesites and standing or downed fire-hazard tree removal at 1,200 homesites. Work crews conducting defensible space creation would hand-cut vegetation, which would then be chipped on-site. For tree removal, a certified arborist and registered professional forester (RPF) would assess trees 10 inches DBH and larger to determine whether the trees are a fire hazard. Hazard tree removal would be limited to standing or downed trees assessed to be dead or dying. State licensed tree contractors would perform the tree removal.

Implementation Methods

Homesites would be eligible for the BCFSC Program if they are within the WUI area and are also within 500 feet of a main evacuation route. This ensures that work would achieve the dual purpose of creating defensible space for homeowners while also improving evacuation route safety during wildfire events. Work would be done throughout Butte County, with the exception of the Town of Paradise (which is seeking its own hazard mitigation grant funding).

Phase one of the program, which began in early 2022, includes BCFSC assembling a team and building a framework for managing the program. This phase also includes outreach, identifying locations for program implementation, and obtaining right-of-entry (ROE) forms from landowners as they voluntarily join the program. Staff for the program includes an arborist to ensure that healthy trees are not unnecessarily removed, a geographic information system specialist to create a geospatial database of project sites, and a State of California-licensed RPF to ensure the project remains in compliance with California laws and regulations, including California Forest Practice Rules. The RPF would develop and manage an invasive species management plan. Two project managers would be hired to oversee the entire program from start to finish. Field coordinators would complete initial defensible space assessments to identify locations for defensible space clearance. The program team is developing program eligibility criteria and application/ROE forms, plus additional documents as needed, in conjunction with Cal OES. These activities are administrative and are excluded from NEPA evaluations.

Phase two would include the implementation of three subprograms: 1) Defensible Space Evaluations/Inspections, 2) Defensible Space Creation (i.e., where hired crews would create defensible space with or without help from the property owners), and 3) Fuels Reduction through Fire-Hazard Tree Removal (i.e., trees 10 inches DBH or larger). All three subprograms would operate concurrently.

Defensible Space Evaluations/Inspections

After site identification is complete under Phase one, defensible space creation treatments would be developed that identify the vegetation to be removed around each structure. Landowners would have the option to participate in the BCFSC Program or do the work themselves. Landowners would also have the option to participate in the BCFSC fuels reduction program if their properties have dead or dying burnt hazard trees 10 inches DBH or larger. BCFSC estimates that up to 2,600 homesites would be identified to potentially participate in the program, with defensible space creation at up to 1,400 homesites and large standing or downed fire-hazard tree removal at up to 1,200 homesites. Many homesites may have both activities conducted on the property.

Prior to initiating defensible space creation and/or hazardous fuels removal activities at any work area, a qualified biologist with experience in the ecology and identification of listed species and their habitats would conduct an initial reconnaissance of the work area. The reconnaissance would consist of walking the work area and visually assessing surrounding areas to identify suitable habitat for listed species. The findings of this reconnaissance would dictate which of the species-specific avoidance and minimization measures would be implemented at the project site. Species-specific avoidance and minimization measures would only be implemented for those species with the potential to occur within or near the Action Area (AA) as determined by the biologist based on the presence of suitable habitat, as discussed further in Section 4.10. No vegetation removal would be performed near any wetlands, ponds, or rivers. An RPF would identify and establish a minimum 25-foot to 150-foot buffer around these resources, dependent upon stream class and slope, as recommended by NMFS to FEMA during review of the Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619) (FEMA 2023). Herbicides would not be used.

FEMA proposes to develop and execute a Section 106 Programmatic Agreement in consultation with the State Historic Preservation Officer (SHPO), Butte County, consulting tribes, and other parties consistent with 36 CFR § 800.6(b)(1)(i-iv), which is discussed further in Section 4.11. The Programmatic Agreement would govern the phased identification and evaluation of archaeological and historic period-built environment resources, measures to avoid or minimize effects, as well as measures to resolve any potential adverse effects to historic properties at each work area prior to initiating defensible space creation and/or hazardous fuels removal activities. A tribal monitoring plan is being prepared and will be included as an addendum to the Programmatic Agreement.

Defensible Space Creation

On properties where landowners have expressed an interest in having defensible space creation completed for them, work crews would be dispatched to complete the work. Landscaping and vegetation within 100 feet of existing structures would be modified to be consistent with the requirements of California Public Resources Code 4291. Defensible space would be created by thinning shrubs and trees 10 inches DBH or less to achieve at least a 20-foot spacing between the tree crowns. Work crews would hand-cut vegetation and either stack brush at designated areas, chip material, or cut it into smaller pieces and scatter it on-site. Masticators or other heavy equipment would not be used. Defensible space creation work would proceed in compliance with all applicable regulations and environmental review documents. Vegetation cut by crews would either be chipped and spread on-site or trucked to a permitted facility for disposal. No material would be placed in streams, vernal pools, or wetlands, and these resources would not be affected by project activities. A tow-behind chipper would be used for most locations, but in areas of extreme terrain, a tracked chipper would be used. Staging would occur along access roads or other previously disturbed areas, and there would be no need for grading or leveling.

Fuels Reduction – Large Fire-Hazard Tree Removal

On properties where landowners have expressed an interest in having hazard trees removed, the certified arborist and RPF would assess trees 10 inches DBH and larger to determine whether the trees are a fire hazard. They would identify the number, type, and size of tree(s) for removal. Tree species to be removed would include California black oak (*Quercus kelloggii*), incense cedar (*Calocedrus decurrens*), Ponderosa pine (*Pinus ponderosa*), gray pine (*Pinus sabiniana*), and Douglas fir (*Pseudotsuga menziesii*), among other species, and would vary in size from 10 inches DBH to 60 inches DBH. Hazard tree removal would be limited to trees assessed to be dead or dying. The program team would ensure that all tree removal operations comply with the environmental review and permitting documents.

Licensed tree contractors would perform the tree removal. All trees slated for removal would be on private property within 300 feet of a homesite and within 500 feet of an evacuation route. Trees would be removed at the base with tree root balls left intact. Stumps would be cut to not exceed 12 inches from the ground. Equipment used would include excavators, grapple trucks, tracked shovel or log loaders, skidders, skid steers, bumper pull chippers, and whole-tree drum chippers. After trees have been felled, they would be dragged to a staging area and trucked to a permitted facility for disposal. Staging would occur along access roads or other previously disturbed areas, and there

would be no need for grading or leveling. Throughout Phase two, the arborist and RPF would ensure that the program stays in compliance with California regulations, which include best management practices (BMPs) as defined by the California Forest Practice Rules (California Department of Forestry and Fire Protection Resource Management, Forestry Practice Program 2020).

3.2.5. MAINTENANCE ACTIVITIES

Follow-up maintenance is not part of the proposed federal grant funding; however, it is a requirement of the grant award and may be considered an effect of the action alternatives. Butte County would maintain the fuel reduction zone in the Skyway ROW, which would include the application of herbicides along the roadway using booms attached to a vehicle. Herbicide would be used and stored in accordance with local, state, and federal regulations and all herbicide applications would follow the product label application instructions and BMPs for the use of herbicides. Follow-up maintenance activities are not anticipated for the Assistance Program. Future maintenance following completion of the BCFSC Program would include the continuation of landowner outreach and inspections. The individual property owners would be responsible for maintenance of the defensible space and would likely employ a variety of hand tools. Cut material might be chipped, burnt on site, or hauled to an approved disposal site by the homeowners.

3.3. Additional Action Alternatives Considered but Dismissed

An alternative to proposed work along ROWs would be to use only chemical and biological methods (e.g., goat grazing) to clear the brush along the County's roadways. The use of herbicides and grazing would eliminate smaller existing vegetation such as small trees and shrubs and could slow the growth of new vegetation along ROWs. While these methods would reduce the risk of wildfire, they are costly and difficult to implement over a large, scattered area and would not remove larger trees that may be contributing to hazardous fuel conditions. Therefore, this alternative was dismissed from further consideration. This alternative would not meet the purpose and need for the projects.

No additional reasonable alternatives were identified for the Assistance Program or all components of the BCFSC Program.

SECTION 4. Affected Environment, Potential Impacts, and Mitigation

This section describes the environment potentially affected by the alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts. When possible, quantitative information is provided to establish potential impacts, which are evaluated qualitatively based on the criteria listed in **Table 4.1**. The impact analysis is divided into two sections: "general consequences," which include impacts that would be expected under all action alternatives, and "project-specific consequences," which include impacts that are specific to each action alternative. Although it is not known which areas would be treated with wildfire mitigation, this work would be targeted at high-fire-risk areas within the County (**Figure 1-1**). This impact evaluation is based on an analysis of the effects of the action alternatives within high-fire-risk portions of the County. On each parcel, the area of effect would be the treatment area and staging areas, and the effect of the project would be the cumulative effect of the work at all treatment areas on the neighborhoods and the County as a whole.

Table 4.1. Evaluation Criteria for Potential Impacts

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

4.1. Resources Not Affected and Not Considered Further

The resources identified in **Table 4.2** would not be affected by either the No Action Alternative or the action alternatives because they do not exist in the project area, or none of the alternatives would

have any effect on the resource. These resources were removed from further consideration in this EA.

Table 4.2. Resources Eliminated from Further Consideration

Impact Scale	Criteria
Geology and Topography	Hazardous fuels reduction, code enforcement and permit assistance, and defensible space management are surface-level activities that would have no effect on geology and topography.
Farmland Soils	Project activities would be limited to the removal of vegetation. The permit Assistance Program would facilitate the replacement of structures in their former locations. The alternatives would not result in the conversion of, or other adverse impacts on, prime or unique farmland soils.
Wild and Scenic Rivers Act	According to the National Wild and Scenic Rivers website (National Wild and Scenic Rivers 2021), the closest Wild and Scenic River—the Middle Fork of the Feather River—is approximately 1.5 miles east of the project area. The alternatives would have no effect on Wild and Scenic Rivers.
Sole Source Aquifers	According to the U.S. Environmental Protection Agency's (EPA) sole source aquifer map (EPA 2022a), there are no sole source aquifers designated in Butte County; therefore, the alternatives would have no effect on sole source aquifers.
Coastal Resources	Butte County is not within the mapped coastal zone boundary designated by the California Coastal Commission (California Coastal Commission 2021) or within a Coastal Barrier Resources Unit (U.S. Fish and Wildlife Service [USFWS] 2021a).
Land Use and Zoning	The alternatives would not change existing land use and are consistent with the current zoning. The alternatives would have no effect on land use and zoning.

4.2. Soils

The project area in the eastern region of the County lies within the Sierra Nevada geomorphic province. The soils in the eastern region of the County are highly variable and composed mainly of rock outcrops and sandy loam, spine soil, gravelly loam, Paradiso loam, and obstruction soils with slopes between 15 and 70 percent (United States Department of Agriculture [USDA] Natural Resources Conservation Service 2022). In the eastern foothill/mountainous area, soil cover is thin (only a few inches thick in some areas) but generally increases throughout the western areas. Rock outcroppings and Logtrain soils are typically less susceptible to erosion risk; however, gravelly and sandy loam soils are much more susceptible to erosion.

4.2.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, Butte County and BCFSC may implement wildfire mitigation activities and would continue to participate in the Butte County Community Wildfire Plan. These activities would result in negligible soil disturbance. However, under this alternative, the risk that wildfires would damage homes and structures would remain high. A major wildfire could result in a loss of homes and other structures, and soils could be disturbed during rebuilding efforts, resulting in erosion.

High-intensity wildfires can also alter the physical and chemical properties and the moisture, temperature, and biotic characteristics of soils (U.S. Forest Service [USFS] 2005). Heat from wildfires can cause soils to form hydrophobic layers that repel water, resulting in decreased stormwater infiltration. Hydrophobicity occurs when plants burn in wildfires, releasing a gas into the soil that cools and solidifies into a waxy, water-repelling substance that coats soil particles. Some of the soil types in the project area have large pores (e.g., sandy and gravelly loam soils), which are susceptible to hydrophobicity in the event of a high-intensity wildfire. In a severe wildfire, soil could become water repellent, organic matter and nutrients could be lost, and soil could become more acidic, making seed establishment less successful (USFS 2005).

Under the No Action Alternative, in the absence of a wildfire, the No Action Alternative would have negligible effects on soils. In the event of a wildfire, there could be negligible to minor adverse impacts on soils, depending on the intensity and scale of a wildfire.

4.2.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

While the action alternatives are not expected to stop the occurrence or large-scale spread of a wildfire, implementation of the action alternatives would reduce the risk that wildfires would damage homes and structures through hazardous fuels reduction, permit assistance, and creation of defensible space. Therefore, the action alternatives would likely have negligible long-term beneficial effects on soil by reducing the risk of soil damage and erosion from wildfires around homes and structures within the project area.

Project-Specific Consequences

Alternative 1

Implementation of Alternative 1 could affect soils during vegetation removal. Under Alternative 1, trees would be removed as close to the ground level as possible, leaving root balls intact, and vegetation greater than 8 inches DBH would be retained. Heavy equipment would use rubber pads to minimize soil disturbance. Under Alternative 1, cut vegetation may be piled and burned; if burned too hot or for too long, the burned piles could create patches of hydrophobic soil. However, this would be managed through proper pile construction and burn management. Thus, the risk of erosion, soil compaction, and hydrophobicity from Alternative 1 would be short term and negligible.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and the overall number of residences being rebuilt is not expected to change. Although rebuilt structures may not occupy exactly the same footprint as the original structure, they would be expected to be constructed in previously disturbed areas. Therefore, Alternative 2 would have no impact on soil.

Alternative 3

Implementation of Alternative 3 could affect soils during vegetation and tree removal. Under Alternative 3, heavy equipment would not be used for defensible space creation and root balls would not be disturbed during tree removal. Thus, the risk of erosion and soil compaction from Alternative 3 would be short term and negligible.

Cumulative Consequences of the Action Alternatives

Implementation of Alternatives 1 and 3 would affect soils throughout the project area from vegetation and tree removal. However, under Alternatives 1 and 3, root balls would be left intact, Alternative 1 would use rubber pads to minimize soil disturbance, and Alternative 3 would not use heavy equipment for defensible space creation. Alternative 2 would have no impact on soil. Cumulative impacts on soils from the action alternatives would be short term and negligible.

4.3. Visual Quality and Aesthetics

The analysis of visual quality is a qualitative analysis that considers the visual context of the project area, the potential for changes in character and contrast, an assessment of whether the project area includes any places or features designated for protection, the number of people who can view the site and project activities, and the extent to which those activities are related to the aesthetic qualities of the area.

Butte County is primarily a rural county, with the eastern portion consisting mostly of foothills and mountains. Foothill oak woodland, intermixed with chaparral, forms a transitional region between the valley grasslands to the west and the mountain forests to the east. The foothills form a distinct and attractive landscape that varies in topography and vegetation, providing scenic vistas along river and creek canyons. The mountain areas are predominantly natural and highly scenic in character. They are heavily forested with coniferous forest, mixed evergreen forest, montane meadow, and montane riparian environments (Butte County 2010).

While there are no officially designated State Scenic Highways in the County, Highway 70 north of the Highway 149 intersection and a portion of Highway 32 are County-designated scenic highways (Butte County 2021). Highway 32 is an evacuation route included in the project area and several evacuation routes are near or intersect with Highway 70. Butte County also has designated land- and water-based scenic areas and resources. Scenic areas within the project area include Butte Meadows, Butte Creek Canyon, and Table Mountain (Butte County 2010).

4.3.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, limited ongoing wildfire hazard reduction activities would not result in perceptible changes in the appearance and visual quality of the County overall. However, the occurrence of a high-intensity wildfire would be more likely to damage homes and structures under the No Action Alternative. The occurrence of a wildfire may have a range of impacts on the visual quality and aesthetics of the project area in both the short- and long-term depending on the intensity and scale of the fire. Additionally, neglecting to remove hazardous fuels from the sides of roadways would result in the buildup of dead, diseased, and downed trees that have the potential to be visually unappealing to the many viewers who frequent the roadways, including scenic byways. The No Action Alterative could have a minor to moderate adverse impact on the visual quality of the County.

4.3.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

In the short term, construction equipment used during implementation of Alternatives 1 and 3 would aesthetically contrast with the existing natural, built, and aesthetic environments. Due to the temporary nature of equipment use and materials storage, Alternatives 1 and 3 would have minor, short-term adverse impacts on visual quality and aesthetics.

In the long term, with implementation of the action alternatives, the risk of wildfire damage to homes and structures throughout the project area would be reduced, which would have a minor, long-term beneficial effect on visual quality and aesthetics by reducing the chance that homes and structures could be burned.

Project-Specific Consequences

Alternative 1

The removal of trees less than 8 inches DBH, shrubs, ladder fuels, dead/dying trees, and other vegetation as prescribed in the ROW Project would cause Skyway to undergo a visual change. In the short term (approximately 6 months), the presence of the work crew and equipment in staging areas on the side of the road may have minor impacts on visual aesthetics. However, the long-term changes to the visual quality could be perceived as cleaner and safer looking, which may be considered a positive visual change. The portion of Skyway in the project area is not a designated scenic road and presents a rural route through a forested environment. The hazardous fuels currently present are impacting public safety and occasionally may be felt to be crowding the roadway. Although Alternative 1 would not change the character of the route as a roadway through the forest, it has the potential to result in long-term indirect benefits to visual resources by reducing the volume of vegetation along the immediate edge of the roadway and creating a safer traveling experience, which may be perceived as a minor beneficial change.

Alternative 2

Alternative 2 would not directly support construction. However, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. The increased

construction would likely result in visual changes to residential areas in the WUI in the short term. Because construction would increase the amount of heavy equipment and workers in the program area, the short-term visual impacts may be negative for surrounding neighbors. Since the rebuild construction would replace structures consistent with current zoning, the long-term visual changes would be limited to restoring the aesthetics to what they were prior to the Camp Fire. Alternative 2 would have no long-term adverse impacts on visual quality and aesthetics.

Alternative 3

Hazardous fuels reduction and maintenance activities would occur near roads, including scenic roadways. Under Alternative 3, the construction equipment and activity along roadways would have minor, short-term adverse impacts on visual quality and aesthetics. Drivers along public roadways would also see the changes in vegetation; however, vegetation larger than 10 inches DBH would be retained, maintaining an overall forested appearance. Alternative 3 could have long-term effects on visual quality along public roadways due to vegetation removal.

Homesites that receive defensible space treatments as part of the BCFSC Program would undergo a visual change from the vegetation management activities, which may be perceived as cleaner and safer looking. Alternatively, some residents may find the increased visual exposure of their homes an adverse effect; however, the participation in the BCFSC Program is voluntary, so the participants would likely view this action as having negligible to minor benefits.

Cumulative Consequences of the Action Alternatives

In the short term, implementation of the action alternatives would affect visual quality and aesthetics throughout the project area from the use of construction equipment and project activities, which would have minor, short-term adverse impacts on visual quality and aesthetics. In the long term, with implementation of the action alternatives, the risk of wildfire damage to homes and structures throughout the project area would be reduced, which would have a cumulative minor, long-term beneficial effect on visual quality and aesthetics by reducing the chance that homes and structures could be burned.

4.4. Air Quality and Climate

The Clean Air Act, as amended, requires EPA to set National Ambient Air Quality Standards (NAAQS) for six pollutants harmful to human and environmental health: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter (PM) (including PM that is less than 10 micrometers in diameter [PM_{10}] and fine particulate matter less than 2.5 micrometers in diameter [$PM_{2.5}$]) (EPA 2023a). Federally funded actions in nonattainment and maintenance areas for these pollutants are subject to conformity regulations (40 CFR § 51 and 93) to ensure that emissions of air pollutants from planned federally funded activities would not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone. According to the EPA's Green Book (EPA 2023b), Butte County is currently in nonattainment status for 8-hour ozone.

Air quality is negatively affected by everyday activities such as vehicle use 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 all affect air quality (EPA 2021). Air quality can also be affected by fugitive dust, which is considered a component of particulate matter. Fugitive dust is released into the air by wind or human activities and can have human and environmental health impacts (California Air Resources Board 2007).

The project area is in the foothills of the Sierra Nevada, which has a Mediterranean climate. The temperature in Magalia, a central community within the project area, ranges from an average low of 33 degrees Fahrenheit (°F) in December and January to an average high of 91°F in July and August. There are many days each year in which temperatures rise to over 100°F. The average annual precipitation in the project area is around 68 inches (U.S. Climate Data 2022). Summer precipitation is typically low with very low humidity, which increases the risk of wildfire spread. Northern California occasionally experiences dry weather fronts that increase wind speeds from the south and then change direction to northeast winds after passing through the area. More frequent in the autumn months, strong north winds bring high temperatures and very low humidity, resulting in red flag warning conditions and the highest potential for extreme fire behavior. During the fall, vegetation is at its lowest moisture content and the combination of dry vegetation with high temperatures and strong winds can result in a severe fire weather situation (River Partners 2021).

'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 (GHG), including carbon dioxide (CO_2) and methane (CH_4). Climate change is capable of affecting species distribution, temperature fluctuations, and weather patterns. The CEQ *Interim NEPA Guidance on Consideration of Greenhouse Gas Emissions and the Effects on Climate Change* (CEQ 2023) suggests that if tools, methodologies, or data inputs are not reasonably available to quantify GHG emissions, a reasonable estimated range of quantitative emissions or a qualitative analysis should be presented and the basis for determining that the quantification is not reasonably available should be explained. Previous CEQ guidance suggested a quantitative analysis should be done if an action would release more than 25,000 metric tons of GHG per year (CEQ 2010).

Estimates indicate that average annual temperatures in the Sacramento Valley region, which encompasses Butte County, will increase by 1°F from 2020 to the 2040s and 2.5°F by the 2080s (Cal-Adapt 2022). Warmer temperatures would decrease mountain snowpack, resulting in lower soil moisture and changes in water storage and runoff (California Natural Resources Agency 2018). Earlier spring snowmelt and higher temperatures also increase the risk of wildfires within the region, and North American wildfires have increased in intensity and frequency throughout the past 50 years (USFWS 2011).

4.4.1. NO ACTION ALTERNATIVE

Limited ongoing wildfire hazard reduction activities by Butte County, BCFSC, or at-risk property owners on their own initiative would have negligible, short-term impacts on air quality from vehicle and equipment use. However, under this alternative, the risk that wildfires would damage homes

and structures would remain high. Wildfire smoke can deteriorate air quality and expose sensitive groups (such as young people, older people, or people with previous respiratory or circulatory health concerns) to harmful pollutants (EPA et al. 2019). Particulate matter, specifically, can have many harmful effects, including eye and respiratory tract irritation, reduced lung function, asthma, and heart failure (EPA et al. 2019). An ongoing study in Montana is finding that prolonged exposure to wildfire smoke can result in long-term health effects even several years after exposure (Houghton 2020). In addition to particulate matter in smoke, fires in residential areas produce a variety of other toxins when buildings and their contents burn (California Department of Resources Recycling and Recovery [CalRecycle] 2020). In the event of a wildfire, the No Action Alternative could have a negligible to minor impact on air quality and regional climate, depending on the intensity and scale of the wildfire.

4.4.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

While the action alternatives are not expected to stop the occurrence or large-scale spread of wildfires, implementation of the action alternatives would reduce the risk that wildfires would damage homes and structures through hazardous fuels reduction, permit assistance, and creation of defensible space. Therefore, by reducing the risk of structure damage and the amount of pollutants produced from burning structures, the action alternatives would have minor, long-term beneficial effects on air quality and climate change.

Project-Specific Consequences

Alternative 1

Implementation of Alternative 1 could have temporary effects on air quality and climate due to the use of heavy equipment during hazardous fuels reduction activities. Gas-powered equipment can produce particulate matter, nitrogen dioxide, carbon monoxide, and sulfur dioxide. Emissions would be similar to other commercial landscaping or road maintenance activities occurring within the County. Masticators would be used to grind up small trees and shrubs in place, which can produce dust when large chips impact the ground. Tracked masticators would have rubber pads; therefore, ground disturbance would be negligible, limiting the release of fugitive dust. Alternative 1 would comply with Butte County Air Quality Management District Rule 205 and implement the best available control measures for fugitive dust emission. In addition, Alternative 1 would comply with state regulations regarding vehicle and equipment idling times (California Health and Safety Code § 40720 and California Code of Regulations § 2485). Under Alternative 1, cut vegetation may be piled and burned, which could have temporary effects on air quality and climate. However, vegetation would be burned in accordance with local air quality standards and Butte County would obtain and comply with all required burn permits. Therefore, Alternative 1 would have minor, short-term air quality impacts from vehicle and equipment use and activities contributing to the release of fugitive dust and other emissions.

Alternative 2

Alternative 2 would not directly support construction. However, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. As a result, there may be an indirect increase in fugitive dust released during the construction of residences facilitated by the Assistance Program, which may have short-term minor impacts on air quality. Therefore, Alternative 2 would have minor, short-term air quality impacts from an increase in vehicle and equipment usage and activities contributing to the release of fugitive dust.

Alternative 3

Implementation of Alternative 3 could have temporary effects on air quality and climate due to the use of heavy equipment and vehicle use. Like Alternative 1, Alternative 3 would comply with Butte County Air Quality Management District Rule 205, as well as state regulations regarding vehicle and equipment idling times. Alternative 3 would include defensible space and tree removal, with different types of activities occurring at multiple homesites at the same time. However, these activities would take place at various homesites throughout the project area and air quality impacts are not expected to be concentrated in one area. Therefore, Alternative 3 would have minor, short-term air quality impacts from vehicle and equipment use, and activities contributing to the release of fugitive dust and other emissions.

Cumulative Consequences of the Action Alternatives

Implementation of the action alternatives would have temporary effects on air quality and climate due to the use of heavy equipment and vehicle use. Alternatives 1 and 3 would comply with Butte County Air Quality Management District Rule 205, as well as state regulations regarding vehicle and equipment idling times. The action alternatives would have cumulative minor, short-term air quality impacts from vehicle and equipment use, and activities contributing to the release of fugitive dust and other emissions.

4.5. Surface Waters and Water Quality

Butte County is in the Sacramento River Hydrological Region, which covers approximately 17 million acres and extends from the Modoc Plateau and Cascade Range at the Oregon border south to the Sacramento-San Joaquin Delta. Several creeks and waterbodies intersect with public roads and private property parcels where hazardous fuels reduction and tree removal could occur. **Figure 4-1** and **Figure 4-2** show the waterbodies within the AA, which is discussed further in Section 4.10.

The Clean Water Act of 1977 (CWA), as amended (33 United States Code [U.S.C.] § 1313(d)(2)), establishes requirements for states and tribes to identify and prioritize waterbodies that do not meet water quality standards. The 2018 Section 303(d) list approved by EPA under the CWA identifies impaired waterbodies for certain constituents of concern. **Table 4.3** presents the 2018 Section 303(d) listed waterbodies and associated pollutants within the project area.

Table 4.3. Section 303(d) Listed Waterbodies and Pollutants

Name	Pollutant
Big Chico Creek	Metals, Nutrients, Other Causes (pH, temperature), Pathogens, Pesticides, Toxic Organics, Toxicity
Butte Creek	Metals, Nutrients, Other Causes (pH, temperature, alkalinity), Pathogens, Pesticides, Salinity, Toxicity
Concow Creek (tributary to West Branch Feather River)	Toxicity
Feather River, Lower (Lake Oroville Dam to Confluence with Sacramento River)	Metals, Nutrients, Other Causes (pH, temperature), Pathogens, Pesticides, Salinity, Toxic Organics, Toxicity
Feather River, North Fork (below Lake Almanor)	Metals, Nutrients, Other Causes (temperature), Salinity, Sediment, Toxic Organics, Toxicity
Feather River, South Fork (from Little Grass Valley Reservoir to Lake Oroville)	Metals, Toxic Organics, Toxicity
Feather River, West Branch (from Griffin Gulch to Lake Oroville)	Metals, Toxic Organics, Toxicity
Lake Oroville	Metals, Nutrients, Pathogens, Pesticides, Toxic Organics
Mud Creek	Other Cause (pH), Pesticides, Toxicity
Sucker Run	Metals, Toxicity

Source: State Water Resources Control Board (2022)

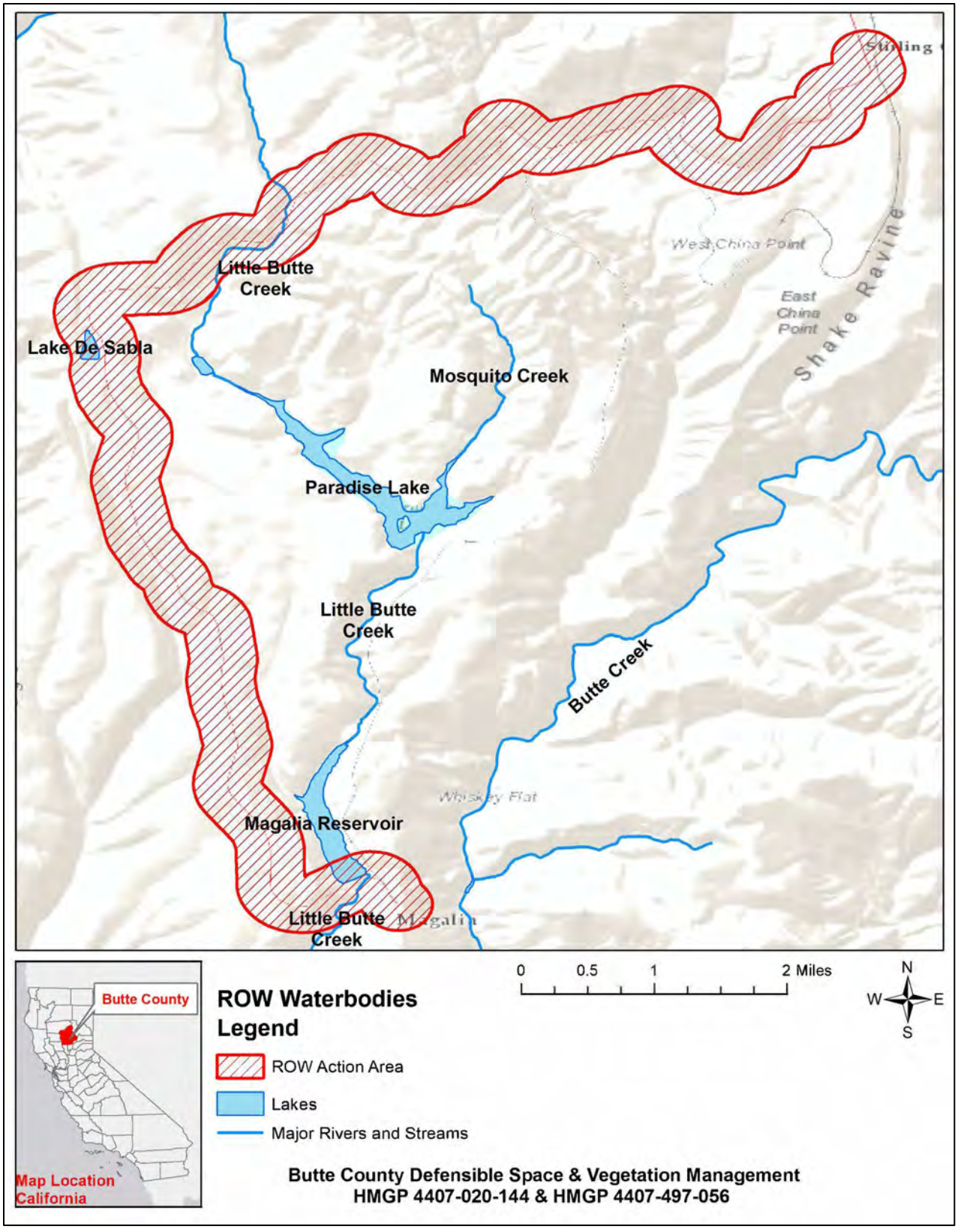


Figure 4-1. Waterbodies within Right-of-Way Action Area

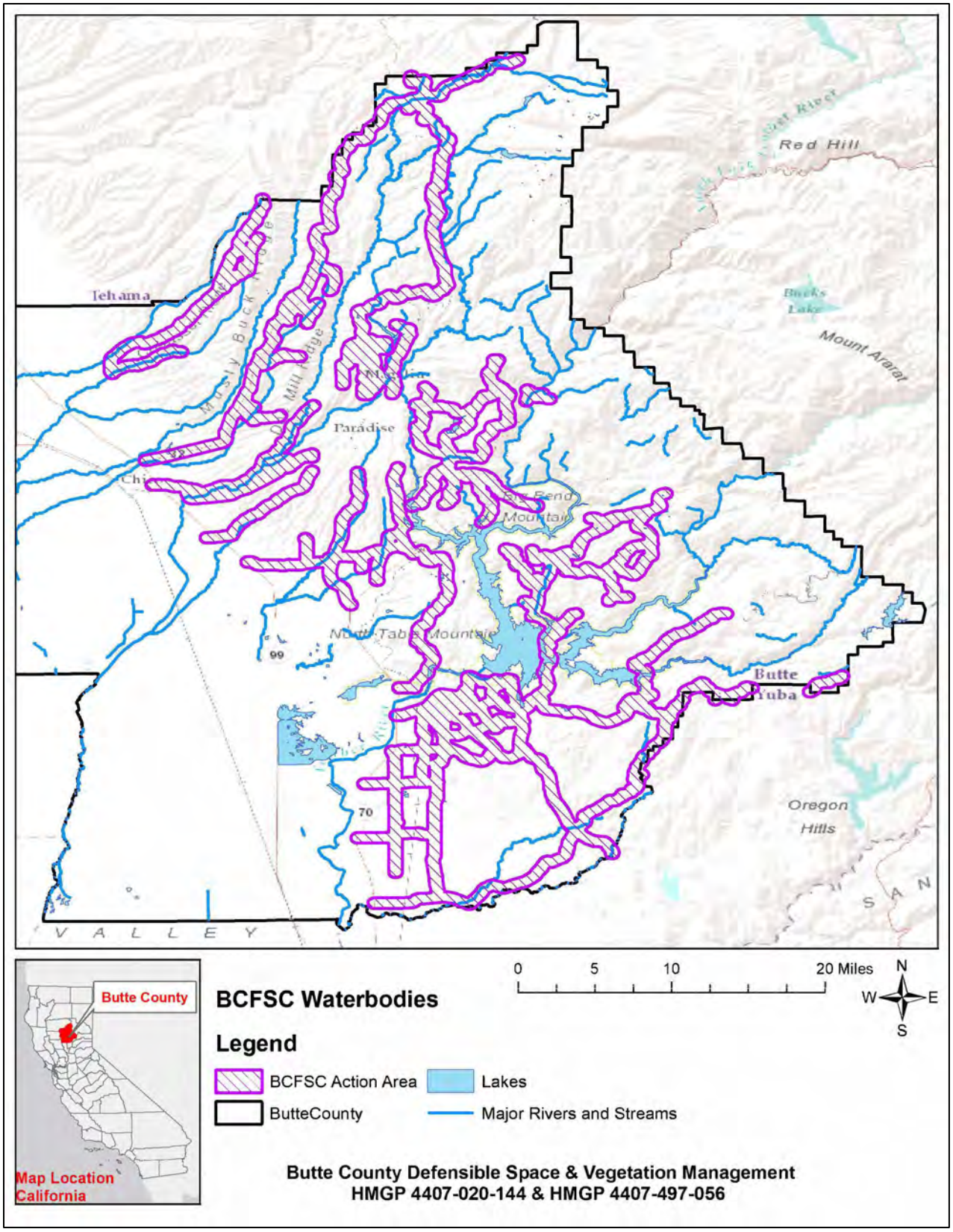


Figure 4-2. Waterbodies within BCFSC Program Action Area

4.5.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, limited ongoing wildfire hazard reduction activities would be conducted by Butte County, BCFSC, and property owners on their own initiative. The potential impacts from individual actions would be expected to be small in scale and impacts on surface waters and water quality would be negligible in the absence of a wildfire. Under the No Action Alternative, the risk of wildfire damage to homes and structures would not be substantially reduced. Wildfire damage in residential areas directly release hazardous materials into the soil and water as plastics burn and materials that are otherwise safely stored are damaged and released (CalRecycle 2020). If a wildfire occurred, burned structures could impact surface water quality through an increase in pollutants entering water resources within the project area. Therefore, the No Action Alternative could have negligible to minor impacts on surface waters and water quality, depending on the scale and intensity of a wildfire.

4.5.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

While the action alternatives are not expected to stop the occurrence or large-scale spread of a wildfire, implementation of the action alternatives would reduce the risk of wildfire damage to homes and structures in the treatment vicinity and thus could result in a reduction of additional pollutants from entering waterways. Therefore, the action alternatives would have negligible long-term beneficial effects on waterbodies within and near the project area.

Project-Specific Consequences

Alternative 1

Under Alternative 1, some vegetation would be retained, and root balls would not be disturbed, as described in Section 3.1.4, thus helping to prevent erosion from vegetation removal. No in-water work is proposed under Alternative 1. No vegetation removal would be performed near any wetlands, ponds, or rivers, and a minimum 25-foot to 150-foot buffer would be placed around these resources, dependent upon stream class and slope, as recommended by NMFS to FEMA during review of the Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619). Herbicides would be used during maintenance activities to prevent weed growth; herbicide applications would follow the product label application instructions and BMPs to prevent herbicides from entering stormwater, waterbodies, and wetlands. Impacts on water resources from implementation of Alternative 1 would be short-term and negligible.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction, and because Alternative 2 is related to the rebuilding of structures, it would not result in in-water work. Although rebuilt structures may not occupy exactly the same footprint as the original structure, they would be expected to be constructed in previously disturbed areas. In addition, the

overall number of residences being rebuilt is not expected to change. Therefore, Alternative 2 would have no impact on water resources.

Alternative 3

Similar to Alternative 1, under Alternative 3, some vegetation within work areas would be retained, and root balls would not be disturbed, as described in Section 3.1.6, thus helping to prevent erosion from vegetation removal. No in-water work is proposed under Alternative 3. No vegetation removal would be performed near any wetlands, ponds, or rivers, and a minimum 25-foot to 150-foot buffer would be placed around these resources, dependent upon stream class and slope, as recommended by NMFS to FEMA during review of the Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619). The RPF would also implement erosion controls consistent with Article 4 of the California Forest Practice Rules, *Harvesting Practices and Erosion Control*. Herbicides would not be used. Impacts on water resources from implementation of Alternative 3 would be short-term and negligible.

Cumulative Consequences of the Action Alternatives

Under Alternatives 1 and 3 there would be no in-water work and no vegetation removal would be performed near any wetlands, ponds, or rivers, and a minimum 25-foot to 150-foot buffer would be placed around these resources, dependent upon stream class and slope. Alternative 2 would have no impact on water resources. Cumulative impacts on water resources from implementation of the action alternatives would be short-term and negligible.

4.6. Wetlands

Executive Order (EO) 11990, Protection of Wetlands, requires federal agencies to consider alternatives to work in wetlands and limits potential impacts on wetlands if there are no practicable alternatives. FEMA regulation in 44 CFR § 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available. Activities that disturb wetlands may also require a permit from the U.S. Army Corps of Engineers under Section 404 of the CWA.

Along its 12-mile path from Magalia to Stirling City, the project area for the ROW Project overlaps with approximately 0.025 acres of a National Wetland Inventory (NWI) mapped freshwater forested/shrub wetland. The BCFSC Program project area overlaps with approximately 391 acres of NWI mapped wetlands. These wetlands consist of approximately 177 acres of freshwater emergent wetlands and 214 acres of freshwater forested/shrub wetlands. The BCFSC Program project area also overlaps with numerous rivers, streams, ponds, and lakes that may have fringe wetlands not mapped by NWI (USFWS 2023a).

4.6.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, limited ongoing wildfire hazard reduction activities would be conducted by Butte County, BCFSC, and property owners on their own initiative. The potential

impacts from individual actions would be expected to be small in scale and impacts on wetlands would be negligible in the absence of a wildfire. However, this alternative would not substantially reduce the risk of wildfire damage to homes and structures through the project area, which could deteriorate water quality and habitat within wetlands from increased pollutants entering waterways. Therefore, the No Action Alternative would have a negligible to minor adverse effect on wetlands, depending on the scale and intensity of a wildfire.

4.6.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

While the action alternatives are not expected to stop the occurrence or large-scale spread of a wildfire, implementation of the action alternatives would reduce the risk of wildfire damage to homes and structures in the treatment vicinity and thus could result in a reduction of additional pollutants from entering waterways, including wetlands. Therefore, the action alternatives would have negligible long-term beneficial effects on wetlands within and near the project area.

Project-Specific Consequences

Alternatives 1 and 3

Alternatives 1 and 3 could potentially have short-term minor adverse effects on wetlands if sedimentation or pollutants were to enter a wetland or surface water connected to a wetland during or after project implementation. To minimize the potential adverse effects to wetlands, no vegetation removal would be performed near any wetlands, ponds, or rivers and a minimum 25-foot to 150-foot buffer would be placed around these resources, dependent upon stream class and slope, as recommended by NMFS to FEMA during review of the Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619). In addition, all staging would be kept at least 300 feet from any vernal pool, vernal pool grassland, or wetland. Therefore, by avoiding wetlands, Alternatives 1 and 3 would have a negligible effect on wetlands in the short term.

FEMA has completed an eight-step decision-making process and has determined that there is no practicable alternative to conducting the project near wetlands (Appendix A).

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and, although rebuilt structures may not occupy exactly the same footprint as the original structure, they would be expected to be constructed in previously disturbed areas. In addition, the overall number of residences being rebuilt is not expected to change. Therefore, Alternative 2 would have no impact on wetlands.

Cumulative Consequences of the Action Alternatives

As previously discussed, under Alternatives 1 and 3 no vegetation removal would be performed near any wetlands, ponds, or rivers, and a minimum 25-foot to 150-foot buffer would be placed around

these resources, dependent upon stream class and slope. Alternative 2 would have no impact on wetlands. Cumulative impacts on wetlands from implementation of the action alternatives would be short-term and negligible.

4.7. Floodplains

EO 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, short- and long-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. FEMA regulations (44 CFR § 9.7) use the 1-percent-annual-chance flood as the minimal area for floodplain impact evaluation. Additionally, EO 13690 established a Federal Flood Risk Management Standard (FFRMS) to help increase community resiliency to flooding and EO 14030, Climate Related Financial Risk, directs federal agencies to implement this new standard through their programs. While new rules are developed, FEMA issued a partial implementation policy for the FFRMS that applies to its hazard mitigation assistance programs and covered projects within the floodplain. FEMA follows an eight-step decision-making process to ensure compliance with EO 11988.

The project area for Alternative 1 is encompassed by two FEMA Flood Insurance Rate Map Panels, effective January 6, 2011 (refer to Appendix A). The entire project area for Alternative 1 falls within Zone X, an area of minimal flood hazard.

The project area for Alternative 2 is encompassed by 17 FEMA Flood Insurance Rate Map Panels, effective January 6, 2011 (refer to Appendix A). Seven panels include areas that fall within Zone A, areas that have a 1-percent probability of flooding every year and where predicted floodwater elevations have not been established. Two panels include areas that fall within Zone AE, areas that have a 1-percent probability of flooding every year and where predicted floodwater elevations have been established, as well as areas that also fall within a floodway.

The project area for Alternative 3 is encompassed by 36 FEMA Flood Insurance Rate Map Panels, effective January 6, 2011 (refer to Appendix A). Although floodplains are within some parts of the project area, most of the treatment areas fall within Zone X, an area of minimal flood hazard. Twenty-three panels include areas that fall within Zone A and five panels include areas that fall within Zone AE, with four of the five panels including areas that also fall within a floodway.

4.7.1. NO ACTION ALTERNATIVE

In the absence of a major wildfire, there would be no effects on floodplains under the No Action Alternative. Although defensible space created by at-risk property owners on their own initiative could remove vegetation within a floodplain, this would not affect current floodplain functions because some vegetation would remain, and riparian buffers would be preserved. The risk of wildfire damage to homes and structures would remain high under this alternative. If a wildfire were to occur, homes and structures would be destroyed, including vegetation surrounding the structures, which could result in an increase in stormwater runoff and sedimentation following a rain event. Thus, the No Action Alternative could have a negligible adverse impact on floodplains in the event of a wildfire.

4.7.2. ACTION ALTERNATIVES

General Consequences of the Action Alternative

While the action alternatives are not expected to stop the occurrence or large-scale spread of a wildfire, implementation of the action alternatives would reduce the risk that wildfires would damage homes and structures, including damage to any vegetation remaining within the treatment vicinity. The action alternatives would reduce the potential for damage to structures and vegetation that could lead to increased stormwater runoff and sedimentation from burned areas; therefore, there would be a negligible long-term beneficial effect on floodplains within the project area.

Project-Specific Consequences

Alternative 1

There are no floodplains within the project area for Alternative 1; therefore, Alternative 1 would have no impact on floodplains.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and the overall number of residences being rebuilt is not expected to change. In addition, Butte County has adopted the California Building Standards Code (California Code of Regulations, Title 24) requirements for building within designated floodplains and these requirements would be applied to all structures being rebuilt. Rebuild activities under Alternative 2 would also comply with the Butte County Flood Ordinance (Ordinance Number 4041). Therefore, Alternative 2 would not cause an increase in flood elevations or modify the existing floodplain.

Alternative 3

Vegetation and debris removal within the floodplain as prescribed by the BCFSC Program is required to reduce wildfire risk. This project would not require any grading or fill and would not adversely affect the floodplain. The minimal vegetation removal would not cause an increase in flood elevations or modify the existing floodplain.

FEMA completed an eight-step checklist for the action alternatives, which concluded that there is no practicable alternative to conducting the project within the floodplain. The eight-step checklist is provided in Appendix A.

Cumulative Consequences of the Action Alternatives

Implementation of the action alternatives would not result in long or short term affects associated with the occupancy and modification of the floodplain.

4.8. Vegetation

Butte County contains 10 distinct types of biological communities and 21 habitat types. The distribution of these biological communities is closely associated with the varying topography and

hydrology. The 10 biological communities are conifer forests (montane hardwood-conifer, ponderosa pine, Sierran mixed conifer, red fir, subalpine conifer), oak woodlands (valley oak woodland, blue oak woodland, blue oak-foothill pine), riparian woodlands (montane riparian, valley foothill riparian), chaparral, annual grasslands, wetlands (freshwater marsh, wet meadow, vernal pool), agricultural land, barren land, open water (reservoirs, ponds, drainages), and urban areas. The treatment areas occur in the central and east portions of Butte County, east of State Highway 99 in the north and State Highway 70 in the south. Moving east From State Highway 90 and State Highway 70, elevations begin to increase into the foothills where chaparral, annual grasslands, and oak woodlands are common. As elevation increases farther to the east, biological communities transition from oak woodlands and chaparral to conifer forests at the highest elevations. Riparian woodland communities are supported by most stream corridors throughout Butte County (Butte County 2021).

Montane hardwood-conifer forests consist of both conifer and hardwood species and are often found as a closed forest at elevations between 1,000 and 4,000 feet. These forests often occur in a mosaic-like pattern with small stands of broad-leaved trees interspersed with small stands of conifers and contain very little understory. Common tree species found in montane hardwood-conifer forests include Ponderosa pine, Douglas fir, California black oak, Oregon white oak (*Quercus garryana*), canyon live oak (*Quercus chrysolepis*), and golden chinquapin (*Chrysolepis chrysophylla)* (Anderson 2005).

In Ponderosa pine forests, 50 percent or more of the canopy consists of Ponderosa pine and is found at elevations between 3,937 and 6,890 feet. Some Ponderosa pine forests consist of pure stands of Ponderosa pine, while others consist of mixed overstory species such as white fir (*Abies concolor*), incense cedar, Douglas fir, canyon live oak, Oregon white oak, Pacific madrone (*Arbutus menziesii*), and tanoak (*Notholithocarpus densiflorus*). Some examples of understory species associated with Ponderosa pine forests are manzanita (*Arctostaphylos columbiana*), California buckthorn (*Rhamnus californica*), poison oak (*Toxicodendron pubescens*), bromes (*Bromus inermis*), and *Carex* species (Fitzhugh 2005).

Sierran mixed conifer forests consist of a multilayered canopy with nearly 100 percent cover and contain a mixture of conifer and hardwood species. These forests are found at elevations between 2,500 and 4,000 feet and generally contain white fir, Douglas fir, Ponderosa pine, sugar pine (*Pinus lambertiana*), incense cedar, and California black oak in the overstory. There are over 100 species of grasses, forbs, and shrubs in the Sierran mixed conifer forests understory such as deerbrush (*Ceanothus integerrimus*), manzanita, chinquapin, brome, sedges (*Carex* species), iris (*Iris germanica*), and needlegrass (*Nassella*) (Allen 2005).

Red fir forests are generally monotypic, consisting of red fir (*Abies magnifica*), with heavy shade and a thick layer of duff inhibiting understory vegetation. These forests are generally evenly aged and have developed from previous fire disturbance. Red fir forests occur at higher elevations in Butte County, ranging from 6,000 to 9,000 feet (Barrett 2005).

Subalpine conifer forests are usually open forests, with needle-leaved evergreen trees and a sparse understory. These forests occur at the highest elevations in Butte County, ranging from 7,000 to 11,000 feet. These forests may contain a canopy of a single species or be composed of two or more

species. Tree species that can be found in subalpine forests include Engelmann spruce (*Picea engelmannii*), subalpine fir (*Abies lasiocarpa*), mountain hemlock (*Tsuga mertensiana*), and several pine species. The understory may include species such as manzanita, squaw currant (*Ribes cereum*), western wheatgrass (*Pascopyrum smithii*), California brome, and several species of lupines and flowering annuals (Verner and Purcell 2005).

Valley oak woodlands vary from forest-like, partially closed canopy stands composed mostly of winter-deciduous, broad-leaved species to savanna-like habitats and occur at elevations below 2,000 feet. Valley soils along natural drainages generally harbor the denser stands of trees and shrubs in this biological community, while the vegetation density decreases in drier uplands. Valley oak woodlands are composed almost exclusively of valley oak (*Quercus lobata*) in the overstory with species such as poison oak, blue elderberry (*Sambucus cerulea*), California wild grape (*Vitis californica*), toyon (*Heteromeles arbutifolia*), California coffeeberry (*Rhamnus californica*), and California blackberry (*Rubus ursinus*) in the shrub layer and various sorts of wild oats (*Avena fatua*), brome, barley (*Hordeum vulgare*), ryegrass (*Lolium perenne*), and needlegrass in the herbaceous layer (Ritter 2005a).

Blue oak woodlands generally have a savanna-like overstory of scattered trees, but the canopy can be nearly closed in some areas. This habitat type is found at elevations between 500 and 3,000 feet, with blue oak (*Quercus douglasii*) being the dominant species. Associated understory species include poison oak, California coffeeberry, buckbrush (*Ceanothus cuneatus*), California buckeye (*Aesculus californica*), manzanita, brome grass, wild oats, foxtail (*Setaria italica*), needlegrass, and other annuals (Ritter 2005b).

The blue oak-foothill pine habitat type occurs at elevations between 500 and 3,000 feet and has a diverse structure of hardwoods, conifers, and shrubs. Blue oak is usually the most prominent overstory species; however, stands can be dominated by foothill pine (*Pinus sabiniana*). The understory generally consists of annual grasses and forbs, but patches of shrubs can also be found and may include California coffee berry, poison oak, silver lupine (*Lupinus albifrons*), blue elder, California redbud (*Cercis occidentalis*), and several *Ceanothus* and manzanita species (Verner 2005).

Riparian woodlands are supported by the many perennial and ephemeral drainages throughout Butte County. In the lower elevations (below 3,000 feet), these habitats are dominated by cottonwood (*Populus sect. Aigeiros*), California sycamore (*Platanus racemose*), and valley oak in the overstory, with white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*) in the subcanopy and California wild grape, California blackberry, blue elderberry, poison oak, and willows (*Salix babylonica*) in the understory (Grenfell 2005a). At the higher elevations (up to 8,000 feet), riparian woodlands consist of black cottonwood (*Populus trichocarpa*), white alder, and thinleaf alder (*Alnus incana*) in the canopy. Some riparian habitats may be dominated by alder or willow along streams and seeps (Grenfell 2005b).

Chaparral occurs at higher elevations in Butte County on foothill slopes and within the understory of woodlands. At lower elevations, this community is dominated by manzanita species and scrub oak

(*Quercus berberidifolia*) in the overstory and toyon, California buckeye, and poison oak in the understory (Butte County 2021).

Wetlands can be found throughout Butte County and vary depending on topography and hydrology. Vernal pool habitats occur primarily in the center of Butte County, in the foothills. These habitats occur within annual grasslands and consist of species such as calicoflower (*Downingi* sp.), slender woolyheads (*Psilocarphus tenellus*), navarretia (*Navarretia* sp.), coyote thistle (*Eryngium* sp.), and hairgrass (*Eleocharis* sp.). Several federally listed species discussed in Section 4.10 are dependent upon vernal pools for survival. At higher elevations, in the eastern portion of the study area, wet meadows are generally dominated by herbaceous wetland species such as rushes (*Juncus* sp.), sedges, spikerush (*Eleocharis* sp.), bent grass (*Agrostis* sp.), and oatgrass (*Danthonia* sp.). Freshwater marsh can be found throughout Butte County along the margins of open water habitats and drainages and in flooded rice fields. Vegetation characteristic of freshwater marshes include sedges, rushes, and cattails (*Typha sp.*) (Butte County 2021).

There are several drainages (rivers and streams), reservoirs, and ponds throughout Butte County that also support vegetation communities. These open water habitats support several species of mosses and algae as well as rooted freshwater marsh and floating plants in wetland and riparian communities (Butte County 2021; Grenfell 2005c).

Urban areas throughout Butte County are relatively limited in regard to native biological communities; however, horticultural plant species can be found. These species are generally composed of monocultures of tree groves, street tree strips, shade tree/lawn, lawn, and shrub cover (Butte County 2021; McBride and Reid 2005).

4.8.1. INVASIVE SPECIES

EO 13112 requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive plant species, such as giant reed (*Arundo donax*), Japanese dodder (*Cuscuta japonica*), spotted knapweed (*Centaurea stoebe ssp. micranthos*), and skeleton weed (*Chondrilla juncea*), are present in Butte County, especially along streams and roads (California Invasive Plant Council [Cal-IPC] 2023).

4.8.2. NO ACTION ALTERNATIVE

In the absence of a major wildfire, there would be minor adverse effects on vegetation from the continued spread of invasive species. However, this alternative would not substantially reduce the risk of wildfire damage to homes and structures and the vegetation that surrounds them. Depending on the intensity and scale of a wildfire, there could be partial or complete loss of vegetation around the structures in the treatment vicinity. In the event of vegetation loss from a wildfire, non-native or invasive species, especially invasive grasses, might be expected to become established over larger areas. Under the No Action Alternative, there could be minor adverse impacts on vegetation.

4.8.3. ACTION ALTERNATIVES

General Consequences of the Action Alternative

While the action alternatives are not expected to stop the occurrence or large-scale spread of a wildfire, implementation of the action alternatives would reduce the risk that wildfires would damage homes and structures, as well as any vegetation remaining within the treatment vicinity. In the long term, the action alternatives would have a minor beneficial effect on vegetation and invasive species because the risk of wildfire damage to homes and structures, and associated vegetation damage and invasive species spread around the structures, would be reduced.

Project-Specific Consequences

Alternative 1

The use of mechanical equipment, such as masticators mounted to excavators, would disturb the ground and increase the risk of invasive species spread. However, herbicide spraying would be implemented to prevent weed growth in the hazardous fuels reduction areas along the ROW. Herbicides would be used and stored in accordance with local, state, and federal regulations and all herbicide applications would follow the product label application instructions and BMPs for the use of herbicides. The amount of ground disturbance would be minimized to the maximum extent possible to reduce the risk of invasive species spread. Therefore, there would be short-term minor adverse effects on vegetation and invasive species.

Alternative 1 would remove hazardous fuels, including brush and small trees within the Skyway ROW. Treatment would focus on removing vegetation that is dead, downed, diseased, dying, or decadent within dense stands of forest and chaparral species. Trees less than 8 inches DBH and brush would be removed. Reducing shrub density would reduce the ability of a fire to climb into the crowns of the remaining trees. By removing the hazardous fuels, Alternative 1 would create a more fire-resilient vegetation community along the Skyway ROW. Therefore, Alternative 1 would have a minor beneficial long-term effect on existing vegetation along the roadway.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and, although rebuilt structures may not occupy exactly the same footprint as the original structure, they would be expected to be constructed in previously disturbed areas. In addition, the overall number of residences being rebuilt is not expected to change. Therefore, Alternative 2 would have no impact on vegetation.

Alternative 3

Under Alternative 3, the use of mechanical equipment, such as masticators mounted to excavators and cranes, would disturb the ground and increase the risk of invasive species spread. The amount of ground disturbance would be minimized to the maximum extent possible on private lands, and landowners would be responsible for compliance with state and county invasive species control

regulations. In addition, the RPF would implement an invasive species management plan. Hence, there would be short-term minor adverse effects on vegetation and invasive species.

Alternative 3 would remove hazardous fuels including brush and small trees at up to 1,400 homesites and remove standing or downed fire-hazard trees at up to 1,200 homesites. Reducing shrub density would reduce the ability of a fire to climb into the crowns of the remaining trees. By removing the hazardous fuels, Alternative 3 would create a more fire-resilient vegetation community at each homesite. Therefore, Alternative 3 would have a minor beneficial long-term effect on existing vegetation communities within the project area.

Cumulative Consequences of the Action Alternatives

Under Alternatives 1 and 3 the use of mechanical equipment would disturb the ground and increase the risk of invasive species spread throughout the project area. Alternative 1 would use herbicide spraying to control invasive species and Alternative 3 would implement an invasive species management plan. Alternatives 1 and 3 would also create more fire-resilient vegetation communities. Alternative 2 would have no impact on vegetation. The action alternatives would have a cumulative short-term minor adverse effect on vegetation and invasive species.

4.9. Fish and Wildlife

Fish and wildlife include the species that occupy, breed, forage, rear, rest, hibernate, or migrate through the project area. Regulations relevant to fish and wildlife include the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act, which are discussed below, as well as the Endangered Species Act, which is discussed separately in Section 4.10.

The MBTA of 1918, as amended (16 U.S.C. 703–711), provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions except under the terms of a valid permit issued pursuant to federal regulations. USFWS is the lead federal agency for implementing the MBTA. All native birds are protected by the MBTA, and existing habitat in the project area has the potential to support a variety of native bird species. Several migratory bird species could occur in the project area, including species such as black-throated gray warbler (*Dendroica nigrescens*), Cassin's finch (*Carpodacus cassinii*), common yellowthroat (*Geothlypis trichas sinuosa*), Lawrence's goldfinch (*Carduelis lawrencei*), and oak titmouse (*Baeolophus inornatus*) (USFWS 2021b). The nesting season for migratory birds in the study area is generally March through July, depending on the species.

The Bald and Golden Eagle Protection Act of 1940 prohibits the take, possession, sale, or other harmful action of any gold or bald eagle, alive or dead, including any part, nest, or egg unless allowed by permit (16 U.S.C. 668[a]). This act requires consultation with USFWS to ensure that proposed federal actions do not adversely affect bald or golden eagles. Because of the close proximity of the project area to roads and developed lands, bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are not expected to nest in the project area, although they would occasionally pass through.

As described in Section 4.8, Butte County offers numerous high-quality habitats that can support fish and wildlife species including conifer forest, oak woodland, riparian woodland, chaparral, annual grassland, open water, and wetlands. Several species also occur on agricultural land, barren land, and urban land (Butte County 2021).

Conifer forests in the eastern portion of Butte County provide an array of food and cover for wildlife species. Conifer forests provide essential resources in the form of mast crops, pine seeds, and berries from shrubs and a variety of forbs and grasses. Additionally, mature conifer forests offer valuable habitat for cavity-nesting birds. Some bird species that can be found in conifer forests in Butte County include Steller's jay (*Cyanocitta stelleri*), hairy woodpecker (*Dryobates villosus*), mountain chickadee (*Parus gambeli*) northern goshawk (*Accipiter gentilis*), and California spotted owl (*Strix occidentalis occidentalis*) (Butte County 2021; California Department of Fish and Wildlife [CDFW] 2023). Other wildlife species that can be found in these forests include the Sierra Nevada red fox (*Vulpes vulpes necator*), western bumble bee (*Bombus occidentalis*), and Cascades frog (*Rana cascadae*) (CDFW 2023).

Oak woodlands provide habitat for wildlife species by offering nesting sites, cover, and food. Cavities in oak trees offer roosting habitat for some species of bats and nesting sites for birds. Mast crops provide food for mammals and birds. Birds that are commonly found in oak woodlands include acorn woodpeckers (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), California scrub jay (*Aphelocoma californica*), California quail (*Callipepla californica*), and wild turkey (*Meleagris gallopavo*) (Butte County 2021). Other wildlife species that can be found in these habitats include species such as the American peregrine falcon (*Falco peregrinus anatum*), bald eagle, foothill yellow-legged frog (*Rana boylii*), North American porcupine (*Erethizon dorsatum*), and pallid bat (*Antrozous pallidus*) (Butte County 2021; CDFW 2023).

Riparian woodlands are generally found in close association with wetlands, streams, rivers, ponds, and reservoirs and provide numerous ecological functions that help support fish and wildlife species in the form of streambank stabilization, water quality maintenance, and habitat. Riparian forests provide food, water, nesting cover, thermal cover, and act as corridors for migration and dispersal. Dying trees and snags in these communities offer refuge to cavity-nesting birds, such as Nuttall's woodpecker (*Picoides nuttallii*) and oak titmouse. Migrating deer herds use these riparian corridors to get from their summer grounds in the higher elevations to their wintering grounds in the foothills and woodlands. Aquatic and upland habitats within riparian forests provide habitat for several invertebrates, amphibians, and aquatic reptiles such as the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), Cascades frog, and foothill yellow-legged frog. Additionally, several species of mammals including the Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*) will use riparian habitat when accessing water resources (Butte County 2021; CDFW 2023).

There are several rivers, streams, ponds, and lakes within the project areas that show the features and characteristics needed to support fish. There are numerous fish species with ranges that include watercourses in Butte County, such as central California roach (*Lavinia symmetricus symmetricus*), coastal rainbow trout (*Oncorhynchus mykiss irideus*), hardhead (*Mylopharodon conocephalus*), riffle

sculpin (*Cottus gulosus*), Sacramento pikeminnow (*Ptychocheilus grandis*), and Sacramento sucker (*Catostomus occidentalis occidentalis*). Some of the larger streams and rivers are within the current range for Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*Oncorhynchus mykiss*), and both species have been documented within or near the project areas. Additional information on these species is in Section 4.10 (CDFW 2020).

4.9.1. NO ACTION ALTERNATIVE

In the absence of a major wildfire, the No Action Alternative would have no effect on common fish and wildlife species. Limited ongoing wildfire hazard reduction activities conducted by Butte County, BCFSC, and property owners would remove some vegetation and habitat. However, effects to fish and wildlife would be negligible because impacts from individual actions would be expected to be small in scale, generally close to structures, and avoid waterways. Similarly, impacts on migratory birds and eagles would be negligible even if work were performed during the nesting season. The No Action Alternative would not substantially reduce the risk of wildfire damage to homes and structures, as well as damage to vegetation and destruction of limited terrestrial habitats around homes and structures within the treatment vicinity. In addition, as previously discussed in Section 4.5, wildfire damage in residential areas directly release hazardous materials into the soil and water as plastics burn and materials that are otherwise safely stored are damaged and released (CalRecycle 2020). Therefore, if a fire were to occur, the No Action Alternative would have minor adverse effects on wildlife, fish, and their habitats.

4.9.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

While the action alternatives are not expected to stop the occurrence or large-scale spread of a wildfire, implementation of the action alternatives would reduce the risk that wildfires would damage homes and structures in the treatment vicinity and thus could result in a reduction of additional pollutants from entering waterways. In addition, the action alternatives would reduce the risk of damage to any vegetation remaining within the treatment vicinity, providing limited refuge in the event of a wildfire. Therefore, in the long term, there would be a minor beneficial effect on wildlife, fish, migratory birds, and eagles because the risk of damage to vegetation and habitat loss would be reduced.

Project-Specific Consequences

Alternatives 1 and 3

Alternatives 1 and 3 have the potential to impact common wildlife species and associated habitats occurring within the project area with the removal of brush and trees. Additionally, noise associated with the use of mechanical equipment could disturb wildlife and cause individuals to move from their preferred areas or temporarily change their behavior. Because of the structures, roads, and other development within the project areas, the bird and mammal species expected in the project areas are those that are accustomed to human disturbance. The noise and activity levels produced by

vehicles and construction equipment during implementation would be localized, temporary, and indiscernible from other maintenance activities occurring around Butte County. Therefore, Alternatives 1 and 3 would have a minor adverse effect on common wildlife species and their habitat in the short term.

There would be no in-water work, and a minimum 25-foot to 150-foot no-work buffer would be implemented around all waterbodies, as recommended by NMFS to FEMA during review of the Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619). Hence, there would be no short-term effect on fish species or their habitat.

Vegetation clearing associated with Alternatives 1 and 3 and tree removal associated with Alternative 3 could affect migratory birds if work were to occur during the nesting season, generally between March and July. Disturbances associated with project implementation could result in inadvertent nest destruction, such as birds abandoning nesting activities leading to loss of eggs or young. Because Alternatives 1 and 3 would be conducted along the County ROW or near homesites, the density of nesting birds is expected to be relatively low because of the level of human activity in these areas compared to more remote areas of the County. Thus, if vegetation clearing and tree removal during the nesting season cannot be avoided, Alternatives 1 and 3 would have minor short-term adverse effects on migratory birds.

If vegetation and tree removal during the nesting season (March 15 to July 31) cannot be avoided, the project would be subject to the MBTA. Butte County would be responsible for determining whether active nests are present (prior to clearing), obtaining and complying with any necessary permits from the USFWS, and documenting this in each project area action plan. USFWS allows empty or abandoned nests to be removed and destroyed without a permit as long as they are not taken into possession.

Alternatives 1 and 3 would likely have a negligible effect on bald and golden eagles and their habitat because project activities would primarily take place near roadways and homesites where eagles are less likely to occur. In addition, most of the project area does not support nesting habitat for bald and golden eagles, and hazardous fuels reduction work would primarily target small trees and brush, which do not provide suitable conditions for nesting or perching. The tree removal work under Alternative 3 would only target trees assessed to be dead or dying, which would allow nests to be easily identified and avoided.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and, although rebuilt structures may not occupy exactly the same footprint as the original structure, they would be expected to be constructed in previously disturbed areas. In addition, the overall number of residences being rebuilt is not expected to change. Therefore, Alternative 2 would have no impact on fish and/or wildlife.

Cumulative Consequences of the Action Alternatives

As previously discussed, Alternatives 1 and 3 have the potential to impact common wildlife species and associated habitats occurring within the project area with the removal of brush and trees. The noise and activity levels produced by vehicles and construction equipment during implementation would be localized, temporary, and indiscernible from other maintenance activities occurring around Butte County. Therefore, Alternatives 1 and 3 would have a minor adverse effect on common wildlife species, migratory birds, and their habitat in the short term. There would be no in-water work, and a minimum 25-foot to 150-foot no-work buffer would be implemented around all waterbodies and there would be no short-term effect on fish species or their habitat. Alternatives 1 and 3 would likely have a negligible effect on bald and golden eagles and their habitat because project activities would primarily take place near roadways and homesites where eagles are less likely to occur. Alternative 2 would have no impact on fish and/or wildlife. Overall, because project activities would be dispersed throughout a large area, the action alternatives would have minor cumulative short-term impacts on fish and wildlife.

4.10. Threatened and Endangered Species and Critical Habitat

The Endangered Species Act (ESA) of 1973 gives USFWS and NMFS authority for the protection of threatened and endangered species. Specifically, section 7(a)(2) requires the agencies to ensure that their activities are not likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitats. This protection includes a prohibition on direct take (e.g., killing, harassing) and indirect take (e.g., destruction of habitat).

The ESA defines the Action Area (AA) as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR § 402.02). Therefore, the area where effects on listed species must be evaluated may be larger than the project area where project activities would occur. The potential physical and biological disturbance effects of this project would be limited to areas within 0.25 miles of project activities. Noise impacts have the potential to extend the farthest based on the maximum noise generation of a chainsaw (85 decibels [dB]) (Section 4.14).

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.) fosters the long-term biological and economic sustainability of our nation’s marine fisheries. Under the act, NMFS designates essential fish habitat for certain commercially managed marine and anadromous fish species and is intended to protect the habitat of commercially managed fish species, including anadromous fish species, from being lost because of disturbance and degradation. Essential fish habitat (EFH) is defined as “those waters and substrate necessary for federally managed species to spawn, breed, feed, and/or grow to maturity.” All federal agencies are required to assess the potential effects of the alternatives on EFH and consult with NMFS on any actions that could adversely affect EFH.

The USFWS Information for Planning and Consultation (IPaC) planning tool was used to identify proposed, threatened, and endangered species within the AA. In addition, information available from the state Programmable Geographic Information System for Cataloging and Encoding Species

observations was used to identify potential fish species that could occur within the AA. Based on an in depth desktop review and a review of recent field surveys, all listed species that may be near the ROW Project AA (Appendix B, Figure 1) or BCFSC Program AA (Appendix B, Figure 2) are shown in **Table 4.4** and are briefly discussed below (USFWS 2023b; CDFW 2023). The Assistance Program would not directly fund any construction activities, and it does not have an AA. Therefore, ESA-listed species are not analyzed in this EA for Alternative 2.

Table 4.4. Federally Listed Species in the Project Area

Species Name	Scientific Name	Federal Listing Status
Amphibians		
California red-legged frog	*Rana draytonii*	Threatened
Foothill yellow-legged frog – Feather River distinct population segment (DPS)	*Rana boylii*	Proposed Threatened
Sierra Nevada yellow-legged frog	*Rana sierraei*	Endangered
Birds		
California spotted owl	*Strix occidentalis occidentalis*	Proposed Threatened
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened
Crustaceans		
Conservancy fairy shrimp	*Branchinecta conservatio*	Endangered
Vernal pool fairy shrimp	*Branchinecta lynchi*	Threatened
Vernal pool tadpole shrimp	*Lepidurus packardi*	Endangered
Fish		
Chinook salmon – Central Valley spring-run evolutionarily significant unit	*Oncorhynchus tshawytscha pop. 6*	Threatened
Steelhead – Central Valley DPS	*Oncorhynchus mykiss irideus pop. 11*	Threatened
Insects		
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Threatened
Flowering Plants		
Butte County meadowfoam	*Limnathes floccosa ssp. californica*	Endangered
Greene's tuctoria	*Tuctoria greenei*	Endangered

Species Name	Scientific Name	Federal Listing Status
Hairy Orcutt grass	*Orcuttia pilosa*	Endangered
Hoover's spurge	*Chamaesyce hooveri*	Threatened
Layne's butterweed	*Senecio layneas*	Threatened
Slender Orcutt grass	*Orcuttia tenuis*	Threatened

Sources: CDFW 2023; USFWS 2023b

California red-legged frog: Suitable habitat for the California red-legged frog includes a variety of aquatic habitats such as streams, deep pools, backwaters within streams and creeks, ponds and marshes for breeding, riparian vegetation for resting and feeding, and upland habitats for dispersal (USFWS 2019). Within the ROW Project AA, suitable aquatic habitat may occur along Butte Creek, Mosquito Creek, and Little Butte Creek, as well as the unnamed intermittent and ephemeral streams that occur within the project area (FEMA 2023). Therefore, the potential for the California red-legged frog to be present in the ROW Project AA cannot be ruled out but is considered to be low because of the limited amount of suitable habitat, the low number of documented occurrences in the area, and the distance from documented occurrences (CDFW 2023). There are several large perennial streams and rivers as well as hundreds of intermittent and ephemeral streams within the BCFSC Program AA that may provide suitable aquatic habitat for the California red-legged frog, and upland areas near those streams may provide suitable dispersal habitat (FEMA 2023). Because of the large size of the AA and presence of numerous streams and rivers within the AA that may provide aquatic habitat, California red-legged frogs are presumed present within the BCFSC Program AA. Additional information on the California red-legged frog's range, California Natural Diversity Database (CNDDB) occurrences, and critical habitat is in Appendix B, Figure 3.

Foothill yellow-legged frog – Feather River distinct population segment (DPS): The foothill yellow-legged frog is a stream-obligate species that is usually observed in or along the edges of cool rocky streams within a wide variety of vegetation types including valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, ponderosa pine, mixed conifer, mixed chaparral, and wet meadow (USFWS 2021c; Butte County Association of Governments 2019). Foothill yellow-legged frogs spend most of their time in or near streams during all seasons, but some will disperse or migrate out of breeding habitat into adjacent terrestrial riparian and aquatic tributary habitat during the nonbreeding season and during times of high flow (USFWS 2021c). Suitable habitat for the foothill yellow-legged frog does occur in both the ROW Project and BCFSC Program AAs and there have been numerous documented CNDDB occurrences within 5 miles of both project areas (FEMA 2023). Therefore, the foothill yellow-legged frog is presumed to be present in both the ROW Project and BCFSC Program AAs. Additional information on the foothill yellow-legged frog's range and CNDDB occurrences is in Appendix B, Figure 4.

Sierra Nevada yellow-legged frog: The Sierra Nevada yellow-legged frog is a highly aquatic species known to be associated with rocky streambeds and wet meadows between 3,500 feet mean sea level (msl) and 12,000 feet msl. Adults will move between selected breeding, feeding, and overwintering habitats throughout the year but are typically found by water (USFWS 2013). Most of

the ROW Project AA is either not within the current range for the Sierra Nevada yellow-legged frog or it does not provide suitable habitat. The only portion of the ROW Project AA that is above 3,500 feet msl is the very northern extent of the project area, at Stirling City, which does not provide suitable habitat for the species (FEMA 2023). For the BCFSC Program, suitable habitat for the Sierra Nevada yellow-legged frog may occur in the southern portion of the project area; however, because of the low number of recent documented occurrences and because habitats in the area are generally fragmented and disturbed, the potential for the species to occur in the BCFSC Program AA is considered to be low (FEMA 2023). Additional information on the Sierra Nevada yellow-legged frog's range, CNDDB occurrences, and critical habitat is presented in Appendix B, Figure 5.

California spotted owl: California spotted owls are found throughout the forests of the western slope of the Sierra Nevada. California spotted owls nest in larger trees in multistoried, mature forests with complex structure that include multi-layered high canopy cover and large amounts of coarse woody debris (USFWS 2022; USDA 2017). Owls may nest in cavities, broken treetops, and occasionally on platforms and snags in large conifers and/or oaks. There are several documented CNDDB occurrences and activity centers for California spotted owls throughout the eastern half of Butte County (CDFW 2023), and portions of both the ROW Project AA and BCFSC Program AA may provide suitable habitat for this species (FEMA 2023). Additional information on the California spotted owl's range, CNDDB occurrences, and activity centers is in Appendix B, Figure 6 and Figure 7.

Yellow-billed cuckoo: The geographical breeding range of this species in western North America is restricted to suitably large patches of riparian habitat within low- to moderate-elevation areas west of the Rocky Mountains (USFWS 2019). The ROW Project AA is outside of the current range for this species and does not provide suitable habitat; therefore, the yellow-billed cuckoo does not have the potential to occur in the ROW Project AA (FEMA 2023). Most of the BCFSC Program AA is also outside of the current range of this species; however, presence within the project area cannot be ruled out because portions of the project area below Lake Oroville are within the current range and may provide suitable habitat for the yellow-billed cuckoo (FEMA 2023). Additional information on the yellow-billed cuckoo's range and critical habitat is in Appendix B, Figure 8.

Conservancy fairy shrimp: Conservancy fairy shrimp occur in vernal pools in a variety of different soil types, geologic formations, and landforms (USFWS 2005). The ROW Project AA does not offer suitable vernal pool habitat for this species; therefore, conservancy fairy shrimp are not expected to occur within the project area for the ROW Project (FEMA 2023). The BCFSC Program AA may provide suitable habitat for conservancy fairy shrimp in the western portion of the project area where grassland vernal pools are present (FEMA 2023). Therefore, the potential for conservancy fairy shrimp to occur in the project area is possible; however, it is considered to be low because project activities will primarily occur within public rights-of way or in close association with houses and buildings that do not provide suitable habitat. Additional information on the conservancy fairy shrimp's range, CNDDB occurrences, and critical habitat is in Appendix B, Figure 9.

Vernal pool fairy shrimp: Vernal pool fairy shrimp exist only in cool-water vernal pools or vernal pool-like habitats, including alkaline pools, clay flats, vernal lakes, vernal swales, and other seasonal wetlands. Vernal pool fairy shrimp do not occur in riverine, marine, or other permanent waterbodies

(USFWS 2007a, 2019). The ROW Project AA is outside of the current range for this species and does not provide suitable habitat; therefore, vernal pool fairy shrimp are not anticipated to occur within the project area (FEMA 2023). The southwestern portions of the BCFSC Program AA are within the known range of the species and may provide suitable habitat (FEMA 2023). Additionally, there are 37 documented CNDDB occurrences for the species within 5 miles of the AA (CDFW 2023). Therefore, the potential for vernal pool fairy shrimp to occur within the BCFSC Program AA cannot be ruled out but is considered to be low because project activities would primarily occur within public rights-of-way or in close association with houses and buildings that do not provide suitable habitat. Additional information on the vernal pool fairy shrimp's range, CNDDB occurrences, and critical habitat is in Appendix B, Figure 10.

Vernal pool tadpole shrimp: Vernal pool tadpole shrimp are only found in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands that contain clear to highly turbid water, with water temperatures ranging from 50 to 84 degrees and pH ranging from 6.2 to 8.5 (USFWS 2007b). The ROW Project AA is outside of the current range for this species and does not provide suitable habitat; therefore, vernal pool tadpole shrimp are not anticipated to occur within the ROW Project AA (FEMA 2023). The southwestern portions of the BCFSC Program are within the known range of the species and may provide suitable habitat (FEMA 2023). Additionally, there are 26 documented CNDDB occurrences for the species within 5 miles of the AA (CDFW 2023). Therefore, the potential for vernal pool tadpole shrimp to occur within the BCFSC Program AA cannot be ruled out; however, it is considered to be low because project activities would primarily occur within public rights-of way or in close association with houses and buildings that do not provide suitable habitat. Additional information on the vernal pool tadpole shrimp's range, CNDDB occurrences, and critical habitat is in Appendix B, Figure 11.

Chinook salmon – Central Valley spring-run (CVSR) evolutionarily significant unit: Adult CVSR chinook salmon enter the Sacramento River between March and September, but primarily in May and June after beginning their upstream migration in late January and early February. CVSR chinook salmon generally enter rivers as sexually immature fish. They must hold in deep, cold, freshwater pools for up to several months before spawning between mid-August and early October (NMFS 2014). Streams within the ROW Project AA do not support suitable habitat for this chinook salmon, and there have been no documented occurrences in these streams (FEMA 2023). Therefore, CVSR chinook salmon do not have the potential to occur within the ROW Project AA. However, some of the streams and rivers that transect the BCFSC Program AA including Butte Creek, Big Chico Creek, Deer Creek, and the Lower Feather River do provide suitable habitat and EFH for CVSR chinook salmon, and this species has been documented in these watercourses (CDFW 2023; NMFS 2014; FEMA 2023). Therefore, the potential for CVSR chinook salmon to occur in the BCFSC Program AA is present. However, it is considered to be low because no in-water work would be performed, setbacks of a minimum of 150 feet around waterbodies that could support CVSR chinook salmon would be implemented, and most of the AA does not support suitable stream or river habitat for Chinook salmon. Additional information on CNDDB occurrences, EFH, and critical habitat for CVSR chinook salmon is in Appendix B, Figure 12.

Steelhead – California Central Valley (CCV) DPS: CCV steelhead are considered winter-run fish: entering freshwater from August through April, holding in larger rivers and streams until flows increase to levels that allow access to spawning tributaries, and spawning from December through April (NMFS 2014). Within 5 miles of the ROW Project AA, CCV steelhead have been documented in Butte Creek as recently as 2008 and have been documented from the mouth of Butte Creek to Quartz Bowl Falls, which is considered a natural barrier to migration and the upstream limit of anadromous fish passage (CDFW 2023). Additionally, within the ROW Project AA, Little Butte Creek offers suitable habitat for CCV steelhead and has been designated as critical habitat for the species (FEMA 2023). Because the ROW Project AA overlaps with Little Butte Creek and several ephemeral and intermittent tributaries to Butte Creek and Little Butte Creek, CCV steelhead have the potential to occur within the ROW Project AA. Within 5 miles of the BCFSC Program AA, CCV steelhead have been documented in Butte Creek, Big Chico Creek, Deer Creek, and the Lower Feather River. Butte Creek transects the BCFSC Program AA in several places and is near Big Chico Creek and the Lower Feather River, where suitable habitat occurs (FEMA 2023). Therefore, CCV steelhead are assumed present in the BCFSC Program AA where suitable habitat occurs. However, because no in-water work would be performed, setbacks of a minimum of 150 feet around waterbodies that could support CCV steelhead would be implemented, and most of the ROW Project and BCFSC Program AA do not support suitable habitat for CCV steelhead, the potential to occur is considered low for both projects. Additional information CNDDB occurrences and critical habitat for CCV steelhead is in Appendix B, Figure 13.

Valley elderberry longhorn beetle: Suitable habitat for the valley elderberry longhorn beetle includes riparian corridors that contain elderberry (*Sambucus* sp.) (USFWS 2006). The ROW Project AA is outside of the current range for the species and there are no documented CNDDB occurrences of the valley elderberry longhorn beetle within 5 miles of the ROW Project AA (FEMA 2023). Therefore, the valley elderberry longhorn beetle is not anticipated to occur within the ROW Project AA. The southern and western portions of the BCFSC Program AA are within the current range for the valley elderberry longhorn beetle and there are 16 CNDDB occurrences of the species documented within 5 miles of the BCFSC Program AA (CDFW 2023; FEMA 2023). Therefore, the valley elderberry longhorn beetle is assumed to be present within areas of the BCFSC Program AA that overlap with the species' current range. Additional information on the valley elderberry longhorn beetle's range and CNDDB occurrences is in Appendix B, Figure 14.

Vernal pool plants (Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, slender Orcutt grass): Suitable habitat (i.e., vernal pools) does not occur in the ROW Project AA to support Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, and/or slender Orcutt grass, and the ROW Project AA is outside of the current range for these species (FEMA 2023). Therefore, vernal pool plants are not expected to occur within the ROW Project AA. Most of the BCFSC Program AA is also outside of the current range for these species; however, portions of the BCFSC Program AA toward the southern and western extent of the project area are within the current range of these species and do contain suitable conditions for vernal pools to occur (FEMA 2023). Therefore, the presence of vernal pool plants cannot be ruled out within the BCFSC Program AA, but it is considered to be low because most of the project area is not within the current range for these species and project activities will primarily occur within public ROW or in close association with houses and buildings that do not offer suitable habitat. Additional information on the range, CNDDB occurrences, and critical habitat for Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, and slender Orcutt grass is in Appendix B, Figure 15, Figure 16, Figure 17, Figure 18, and Figure 19, respectively.

Layne's butterweed: Layne's butterweed grows on gabbro-derived soil formations and occasionally on serpentine soils in open rocky areas within chaparral plant communities (USFWS 1996a). The ROW Project AA is outside of the current range of Layne's butterweed, and there are no documented CNDDB occurrences within 5 miles of the ROW Project AA (FEMA 2023). Therefore, the Layne's butterweed is not expected to occur in the ROW Project AA. Most of the BCFSC Program AA is outside of the current range for Layne's butterweed, and there are no CNDDB occurrences for the species within Butte County. However, portions of the project area associated with Robinson Mill Road, Los Verjeles Road, La Porte Road, and Forbestown Road are within the species' range (FEMA 2023). Because these portions of the BCFSC Program AA contain possible suitable habitat for Layne's butterweed, the species cannot be ruled out from the area. However, the potential for Layne's butterweed to be present in these portions of the BCFSC Program AA is considered to be low because suitable habitats with gabbro or serpentine soils have been fragmented, and there are no documented occurrences within Butte County. Additional information on the range and CNDDB occurrences for Layne's butterweed is in Appendix B, Figure 20.

Critical Habitat: Critical habitat for conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, CVSR Chinook salmon, CCV steelhead, and Butte County meadowfoam overlap with the BCFSC Program AA (FEMA 2023). Additionally, critical habitat for California red-legged frog, Sierra Nevada yellow-legged frog, yellow-billed cuckoo, and Green's tuctoria occurs within 10 miles of the ROW Project and/or BCFSC Program AAs but does not overlap with them (USFWS 2023c; FEMA 2023). Additional information on listed species critical habitat is in Appendix B.

EFH: Designated EFH occurs for Chinook salmon in approximately 70 percent of the fish-bearing streams within the project areas (Appendix B, Figure 12) (National Oceanic and Atmospheric Administration 2023; FEMA 2023).

4.10.1. NO ACTION ALTERNATIVE

In the absence of a major wildfire, the No Action Alternative would have no effect on listed species and their habitats. Limited ongoing wildfire hazard reduction activities conducted by Butte County and property owners would remove some vegetation and habitat. However, effects to listed species would be negligible because impacts from individual actions would be expected to be small in scale, would not involve in-water work, and would be primarily in previously disturbed areas. The No Action Alternative would not substantially reduce the risk of wildfire damage to homes and structures, as well as damage to vegetation and destruction of the limited terrestrial habitats around homes and structures within the treatment vicinity. In addition, as previously discussed in Section 4.5, wildfire damage in residential areas directly release hazardous materials into the soil and water as plastics burn and materials that are otherwise safely stored are damaged and released (CalRecycle 2020). Therefore, if a fire were to occur, the No Action Alternative would have minor adverse effects on listed species and their habitats.

4.10.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

While the action alternatives are not expected to stop the occurrence or large-scale spread of a wildfire, implementation of the action alternatives would reduce the risk that wildfires would damage homes and structures in the treatment vicinity and thus could result in a reduction of additional pollutants from entering waterways. In addition, the action alternatives would reduce the risk of damage to any vegetation remaining within the treatment vicinity, providing limited refuge in the event of a wildfire. In the long term, there would be minor beneficial effects to listed species, designated critical habitat, and EFH because the risk of damage to vegetation and habitat loss around homes and structures within the treatment vicinity would be reduced.

Project-Specific Consequences

Alternative 1

Alternative 1 could have a minor adverse effect on ESA-listed species in the short term. Suitable habitat for the California red-legged frog, foothill yellow-legged frog, California spotted owl, and CCV steelhead does occur within portions of the project area. However, the potential for these species to be present in work areas is extremely low, considering the implementation of the following:

- A minimum 150-foot no-work buffer around waterbodies where ESA-listed fish may be present
- A 100-foot no-work buffer around waterbodies where habitat for non-fish aquatic species is present
- A minimum 25-foot to 150-foot no-work buffer around waterbodies with no habitat for aquatic species as recommended by NMFS to FEMA during review of the Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619)

Suitable habitat could be negatively impacted by vegetation and tree removal within riparian areas. Additionally, if individuals were present within or near the project area, noise and vibration associated with Alternative 1 could disturb these species and cause them to move from their preferred areas or temporarily change their behavior. General and species-specific avoidance and minimization measures (including the presence of a biological monitor during tree and vegetation removal activities), as required through consultation with USFWS, would mitigate potential adverse effects on listed wildlife species to a negligible level. FEMA submitted a Biological Assessment to USFWS and NMFS on September 19, 2023. FEMA determined the ROW Project may affect, but is not likely to adversely affect, California red-legged frog, foothill yellow-legged frog, California spotted owl, and CCV steelhead (FEMA 2023). The Biological Assessment (FEMA 2023) includes the implementation of the general and species-specific avoidance and minimization measures listed in Appendix C. USFWS concurred on November 9, 2023, and NMFS concurred on December 15, 2023, that the ROW Project may affect, but is not likely to adversely affect, listed species.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and, although rebuilt structures may not occupy exactly the same footprint as the original structure, they would be expected to be constructed in previously disturbed areas. In addition, the overall number of residences being rebuilt is not expected to change. Therefore, Alternative 2 would have no impact on threatened and endangered species.

Alternative 3

Alternative 3 could have a minor adverse effect on ESA-listed species in the short term. Suitable habitat for the California red-legged frog, foothill yellow-legged frog, Sierra Nevada yellow-legged frog, California spotted owl, yellow-billed cuckoo, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, CVSR Chinook salmon, CCV steelhead, valley elderberry longhorn beetle, Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, Layne's butterweed, and slender Orcutt grass does occur within portions of the project area. However, the potential for these species to be present in work areas is extremely low, considering the implementation of the following:

- A minimum 150-foot no-work buffer around waterbodies where ESA-listed fish may be present
- A 100-foot no-work buffer around waterbodies where non-fish aquatic species habitat is present
- A minimum 25-foot to 150-foot no-work buffer around waterbodies with no habitat for aquatic species, as recommended by NMFS to FEMA during review of the Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619)

Suitable habitat could be negatively impacted by vegetation and tree removal within riparian areas. Additionally, if individuals were to be present within or near the project area, noise and vibration associated with Alternative 3 could disturb these species and cause them to move from their preferred areas or temporarily change their behavior. General and species-specific avoidance and

minimization measures (including the presence of a biological monitor during tree and vegetation removal activities), as required through consultation with USFWS, would mitigate potential adverse effects on listed wildlife species to a negligible level. FEMA submitted a Biological Assessment to USFWS and NMFS on September 19, 2023. FEMA determined the BCFSC Program may affect, but is not likely to adversely affect, California red-legged frog, foothill yellow-legged frog, Sierra Nevada yellow-legged frog, California spotted owl, yellow-billed cuckoo, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, CVSR Chinook salmon, CCV steelhead, valley elderberry longhorn beetle, Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, Layne's butterweed, and slender Orcutt grass (FEMA 2023). The Biological Assessment (FEMA 2023) includes the implementation of the general and species-specific avoidance and minimization measures listed in Appendix C. USFWS concurred on November 9, 2023, and NMFS concurred on December 15, 2023, that the BCFSC Program may affect, but is not likely to adversely affect, listed species.

Cumulative Consequences of the Action Alternatives

Alternatives 1 and 3 could have a minor adverse effect on ESA-listed species in the short term. General and species-specific avoidance and minimization measures (including the presence of a biological monitor during tree and vegetation removal activities), as required through consultation with USFWS, would mitigate potential adverse effects on listed wildlife species to a negligible level. Alternative 2 would have no impact on threatened and endangered species. Therefore, the action alternatives would have negligible cumulative short-term impacts on listed and proposed species.

4.11. Cultural Resources

This section provides an overview of potential effects on cultural resources, including historic properties (defined at 36 CFR § 800.16[l]). Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108), requires that projects receiving federal funds undergo a review process to consider potential effects on historic properties, which are defined as cultural resources that are listed in or may be eligible for listing in the National Register of Historic Places. Cultural resources can include prehistoric or historic period archaeological sites; historic period buildings, structures, or objects; prehistoric or historic period districts; Traditional Cultural Properties with cultural or religious significance to federally recognized Indian tribes; or other physical evidence of human activity considered to be important for cultural, scientific, traditional, religious, or other reasons.

Pursuant to 36 CFR § 800.4(a)(1), FEMA has defined an Area of Potential Effects (APE) that includes all areas within which the undertakings may directly or indirectly affect cultural resources. Because the specific properties that would be included in Alternative 3 have not yet been identified, FEMA defined the APE as the full area within 500 feet of evacuation routes within the WUI area in Butte County, as depicted in **Figure 4-3**.

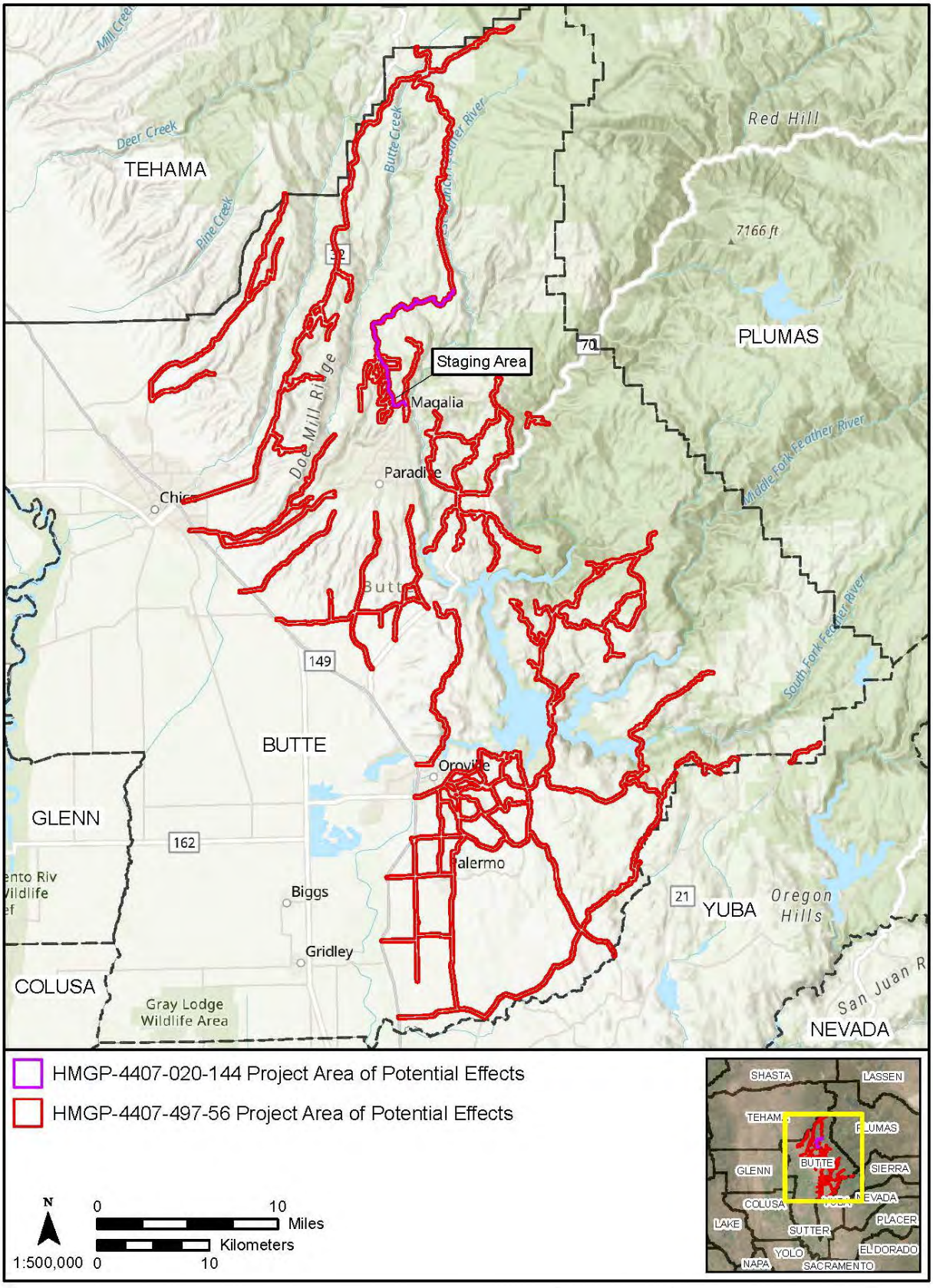


Figure 4-3. ROW Project and BCFSC Program Location and Project Vicinity

The project area lies within the traditional territory of the Konkow, also known as the Northwestern Maidu. Konkow villages consisted of anywhere from 25 to 200 inhabitants and were frequently situated along major rivers within the Sacramento Valley or on elevated knolls or ridge flats above drainages in the foothills (Riddell 1978). Euroamerican settlement of the region did not occur until establishment of Mexican ranchos in the 1840s, but land use quickly changed with the Gold Rush, and Butte County was established as one of the original 27 counties in California (Beck and Haase 1974:61). Many of the initial towns in Butte County originated as mining camps along the Feather River and Butte Creek; only Paradise grew to a major incorporated town (Hoover et al. 1990). Most of the county's early settlers were involved in gold mining, livestock production, and agriculture, and later lumber operations (McDonald 2000).

In 2018, in support of prior environmental reviews under the Public Assistance (PA) Program, FEMA conducted a records search through the Northeast Information Center of the California Historical Resources Information System for all of Butte County. The search revealed 49 known cultural resources and 180 prior cultural resource studies within the APE. Additional cultural resources have since been recorded within Butte County as a result of surveys for projects funded through the PA Program, and these data are currently being processed.

According to 36 CFR § 800.14(b), when effects on historic properties are similar and repetitive or regional in scope, or when effects on historic properties cannot be fully determined prior to approval of a project, a federal agency may negotiate a Programmatic Agreement to govern the implementation of a particular program or the resolution of adverse effects from certain complex project situations or multiple projects. FEMA proposes to develop and execute a Section 106 Programmatic Agreement in consultation with the SHPO, Butte County, consulting tribes, and other parties consistent with 36 CFR § 800.6(b)(1)(i-iv) for Alternatives 1 and 3. The Programmatic Agreement would govern the phased identification and evaluation of archaeological and historic period-built environment resources associated with the action alternatives, measures to avoid or minimize effects, as well as measures to resolve adverse effects to historic properties that may result from their implementation (refer to discussion below). The proposed Programmatic Agreement would also include provisions for the discovery of historic properties and management of any inadvertent effects, consistent with 36 CFR § 800.13(b). In the event that any cultural resources are discovered, or inadvertent effects are identified during implementation of Alternatives 1 and 3, it is anticipated the Programmatic Agreement would require the Subapplicant to immediately cease work, secure the area, and notify FEMA, Butte County, SHPO, and any consulting parties and consult to resolve the situation.

On September 19, 2023, FEMA initiated consultation with 11 Tribes about the action alternatives to solicit comments and request any additional information about cultural resources that may be impacted by the action alternatives. Tribes contacted included the Berry Creek Rancheria of Maidu Indians, Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Greenville Rancheria of Maidu Indians, Grindstone Indian Rancheria of Wintun-Wailaki Indians of California, KonKow Valley Band of Maidu, Mechoopda Indian Tribe, Mooretown Rancheria of Maidu Indians, Nevada City Rancheria Nisenan Tribe, Tsi Akim Maidu, United Auburn Indian Community of the Auburn Rancheria, and the Washoe Tribe of Nevada and California. Responses from Tribes are summarized in Section 6.1. A

tribal monitoring plan is being prepared and will be included as an addendum to the Programmatic Agreement.

4.11.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, existing conditions, including wildfire hazards, would be expected to remain high. Butte County, BCFSC, and individual property owners may continue some wildfire mitigation activities without the implementation of avoidance and minimization measures associated with the action alternatives; thus, there would be the potential for direct disturbance to cultural resources. Despite the potential for some wildfire mitigation activities to occur, the risk of wildfire damage to homes and structures would remain high. Therefore, potentially historic structures would remain at risk and could be damaged or destroyed by a wildfire. Depending on their scale and intensity, future wildfires would be expected to have minor to major impacts on archaeological resources or historic period-built environment resources in the APE.

4.11.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

Implementation of the action alternatives would reduce the risk that wildfires would damage homes and structures, including potentially historic structures that may be within the treatment vicinity. Therefore, in the long term, there would be a negligible beneficial effect on historic period-built environment resources in the APE due to the reduced risk of wildfire damage.

Project-Specific Consequences

Alternative 1

Alternative 1 has the potential to affect historic properties due to the physical disturbance or alteration of potential information-bearing archaeological deposits [36 CFR § 800.5(a)(2)(i)]. While work would be limited to the existing ROW, it is possible that intact, information-bearing archaeological deposits may be present between the road shoulder and edge of right-of-way that survived road construction. However, built environment historic properties are unlikely to be present in the ROW. The proposed Programmatic Agreement would include provisions for determining the likelihood of such intact archaeological deposits and provide a process for protecting them during project activities. If protection is not feasible, the Programmatic Agreement would include a process for resolving any adverse effects in consultation with consulting parties and the SHPO. The proposed action would result in a No Adverse Effect determination.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and, although rebuilt structures may not occupy exactly the same footprint as the original structure, they would be expected to be constructed in previously disturbed areas. In addition, the overall number of residences being rebuilt is not expected to change. Therefore, Alternative 2 is unlikely to affect historic properties.

Alternative 3

Alternative 3 would include creating defensible space and reducing hazardous fuels at eligible homesites on a property-by-property basis. Because the specific properties that would be included and the defensible space creation treatments that would be implemented would remain undetermined until applications have been accepted, the effects of the program on potential historic properties cannot be fully determined prior to approval of the Undertaking. Therefore, pursuant to 36 CFR § 800.14(b), FEMA has proposed developing a Programmatic Agreement that would provide a process for compliance with Section 106. It would outline a procedure for evaluating, on a property-by-property basis, the potential for the proposed activities at each location to affect any historic properties should they be present. The Programmatic Agreement would include a process for consultation with consulting parties and the SHPO on any findings and determinations. If the parties determine the proposed activities may adversely affect a historic property, they will consult to develop property-specific mitigation measures on a case-by-case basis prior to implementation of any activities on an individual property. The proposed action would result in a No Adverse Effect determination.

Cumulative Consequences of the Action Alternatives

Alternatives 1 and 3 may impact intact archaeological deposits or historic properties within the project area. Alternative 2 is unlikely to affect historic properties and would not contribute to cumulative effects. FEMA is developing a Programmatic Agreement that would provide a process for compliance with Section 106. The action alternatives would result in a No Adverse Effect determination.

4.12. Environmental Justice

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

The project area encompasses the eastern portion of Butte County in the state of California. This environmental justice analysis is focused at the local (i.e., Butte County) level. The local area included in this analysis is where project-related impacts would occur, potentially causing an adverse and disproportionately high effect on neighboring minority and low-income populations. For the purposes of this analysis, environmental justice populations are identified using demographic indicators and Environmental Justice Indexes.

In accordance with the FEMA EO 12898 Environmental Justice: Interim Guidance for FEMA EHP Reviewers, environmental justice populations are defined as meeting either or both of the following criteria:

- The populations within the project benefit area contains a minority or low-income population that is equal to or exceeds the 50th percentile compared to the average of the state where the affected environment is located.

- One or more Environmental Justice Index (e.g., air quality pollutants, traffic proximity and volume, proximity to hazardous waste sites) equals or exceeds the 80th percentile compared to the average of the state.

Minority Populations: CEQ (1997) defines the term 'minority' as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. According to EPA's Environmental Justice Screening and Mapping Tool (EPA 2022b), Butte County is in the 17th percentile in the state for minority populations. As such, the County would not be considered to contain a minority population because it does not meet the percentile threshold listed above.

Low-Income Populations: Residents of areas with a high percentage of people living below the federal poverty level may be considered low-income populations. Butte County is in the 69th percentile in the state for low-income population (EPA 2022b). As such, the County would be considered to contain a low-income population because it exceeds the 50th percentile threshold.

Environmental Justice Index: Table 4.5 depicts the Environmental Justice Indexes for Butte County and identifies if environmental justice populations are present based on the criteria described above.

Table 4.5. Environmental Justice Indexes – Butte County

EJ Index	Percentile in State	Environmental Justice Population Present?[1]
Particulate Matter	28	No
Ozone	31	No
NATA Diesel Particulate Matter	22	No
NATA Air Toxics Cancer Risk	58	No
NATA Respiratory Hazard Index	64	No
Toxic Releases to Air	10	No
Traffic Proximity and Volume	33	No
Lead Paint Indicator	43	No
Proximity to National Priorities List Sites	35	No
Proximity to Risk Management Plan Sites	35	No

EJ Index	Percentile in State	Environmental Justice Population Present?[1]
Proximity to Treatment Storage and Disposal Facilities	27	No
Underground Storage Tanks	0	No
Wastewater Discharge Indicator	45	No

Source: EPA 2022b

Notes: [1] Index equals or exceeds the 80th percentile compared to the average of California; therefore, an environmental justice population is present.

All the Environmental Justice Indexes are below the 80th percentile for Butte County. As such, the County would not be considered to contain an environmental justice population based on the Environmental Justice Indexes because they do not meet the percentile threshold listed above.

4.12.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, although some small-scale fuels reduction work and defensible space creation could be implemented by Butte County, BCFSC, and willing at-risk property owners, property owners would not be able to take advantage of cost-shared funding to implement these modifications around their own homes. Therefore, low-income populations may experience additional hardship because of the lack of funding for these modifications. Under this alternative, the risk of wildfire damage to homes and structures would remain high throughout the project area. In the event of a wildfire, the population in Butte County, including low-income populations, may experience adverse health impacts and/or damage or loss of property and assets. Because of their low income, this population could be disproportionately and adversely affected by a wildfire because of their limited resources to recover. Therefore, minor to moderate impacts may occur for the entire population regardless of income, depending on the intensity and scale of a wildfire.

4.12.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

No general consequences under all action alternatives are anticipated; refer to project-specific consequences below.

Project-Specific Consequences

Alternative 1

Under Alternative 1, removal of hazardous fuels along Skyway (within the County ROW), would result in temporary and localized impacts, such as noise and reduced air quality, which would impact those close to the work location, including low-income residents. However, these effects would not disproportionately impact low-income residents, because these short-term effects would affect all residents near project activities. In addition, all residents would benefit in the long-term from the safer evacuation route created along Skyway.

Alternative 2

Alternative 2 would not directly support construction. However, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. As a result, construction may have temporary and localized indirect impacts, such as noise and reduced air quality, which would impact those close to the work location, including low-income residents. However, these effects would not disproportionately impact low-income residents, because these short-term effects would impact all residents near the project activities. In addition, the implementation of the Assistance Program would help the speed and efficiency of the recovery and rebuilding effort over the long-term.

Alternative 3

Under Alternative 3, defensible space creation and removal of standing or downed fire-hazard trees would result in temporary and localized impacts, such as noise and reduced air quality, which would impact those close to the work location, including low-income residents. However, these effects would not disproportionately impact low-income residents, because these short-term effects would affect all residents near project activities. In addition, low-income populations may especially benefit from defensible space creation and tree removal in the long-term because they may not have the funds to create defensible space around their homes themselves. The benefits of reduced risk of damage to structures could be a greater benefit to low-income households who may be less able to withstand the loss of a residence in a wildfire.

Cumulative Consequences of the Action Alternatives

There would be no disproportionately high and adverse impacts from the construction activities associated with the action alternatives, such as noise and reduced air quality. There would be a cumulative beneficial effect from implementation of the action alternatives.

4.13. Hazardous Materials

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

Hazardous materials may be encountered in the course of a project, or they may be generated by the project activities. To determine whether any hazardous waste facilities exist in the vicinity or upgradient of the proposed project area or whether there is a known and documented environmental issue or concern that could affect the proposed treatment areas, a search for Superfund sites, toxic release inventory sites, water dischargers (i.e., municipal and industrial wastewater treatment facilities), hazardous facilities or sites, and multiactivity sites was conducted using EPA's NEPA Assist

website (EPA 2022c). According to this database, hazardous wastes, water dischargers, toxic releases, and brownfields are present within the project area in Butte County.

4.13.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, existing conditions would not change significantly. At-risk property owners, in tandem with the county or local groups, may implement small-scale fuels reduction work within the project area, which would pose a negligible threat of release of hazardous materials from equipment and potentially localized and negligible site contamination from leaks or spills. However, the risk of wildfire damage to homes and structures would not be substantially reduced under this alternative. Wildfire damage in residential areas directly release hazardous materials into the air, soil, and water as plastics burn and materials that are otherwise safely stored are damaged and released (CalRecycle 2020). Wildfire could also directly impact hazardous materials sites, potentially releasing contaminants into the ground, water resources, or in the air. Therefore, the potential for a wildfire in the project area to produce hazardous materials from burning homes or release hazardous materials would be minor to moderate, depending on the scale and intensity of a wildfire.

4.13.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

In the long term, the action alternatives would reduce the risk of wildfire damage to structures within the project area. Reduced risk of structural damage would reduce the potential for hazardous material release into soil, air, and water from burning homes and hazardous material sites. Therefore, the action alternatives would have a minor, long-term benefit on hazardous materials.

Project-Specific Consequences

Alternatives 1 and 3

Hazardous fuels reduction along Skyway (within the County ROW) under Alternative 1 and vegetation and tree removal under Alternative 3 would include the use of mechanical equipment and vehicles, which would pose the threat of leaks and spills. The short-term duration of the use of equipment at any individual location and the use of equipment in good condition would reduce any potential effect to a negligible level. All equipment and project activities would adhere to state and local regulations to reduce the risk of hazardous leaks and spills. Any spills during implementation would be immediately contained and cleaned. Thus, there would be a negligible contamination threat from vehicle and equipment use in the short term.

Alternative 2

Alternative 2 would not directly support construction. However, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. As a result, Alternative 2 would increase the short-term use of construction equipment and vehicles. However, equipment and project activities would adhere to state and local regulations to reduce the risk of hazardous leaks and spills. As such, there would be a negligible contamination threat from vehicle and equipment use in the short term under Alternative 2.

Cumulative Consequences of the Action Alternatives

The action alternatives would include the use of mechanical equipment and vehicles, which would pose the threat of leaks and spills. However, equipment and project activities would adhere to state and local regulations to reduce the risk of hazardous leaks and spills. The action alternatives would have a negligible cumulative contamination threat from vehicle and equipment use in the short term.

4.14. Noise

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise events that occur during the night (10 p.m. to 7 a.m.) are more annoying than those that occur during normal waking hours (7 a.m. to 10 p.m.). Assessment of noise impacts includes the proximity of the action alternatives to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, nursing homes, and libraries, all of which are present within the project area. Noise-generating activities in proximity to sensitive receptors could have the potential for an adverse effect.

Typical noise events in the project area are presently associated with climatic conditions (e.g., wind, rain), light traffic noises from nearby roadways, and other intermittent residential conditions (e.g., lawnmowers, leaf blowers).

4.14.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, existing conditions would not change significantly. At-risk property owners, in tandem with the county or local groups, may implement small-scale fuels reduction work within the project area over time. The tools and equipment used for these activities would be similar to those already in use for general landscape maintenance around residences, including chainsaws and small chippers. Construction on parcels with building permits would also continue, generating minor short-term construction noise. Therefore, there would be a negligible change in existing noise levels that could affect sensitive receptors in the project area.

4.14.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

The action alternatives do not propose the installation of any noise-emitting sources nor any long-term operational activities. As such, no long-term noise impacts would occur under the action alternatives.

Project-Specific Consequences

Alternatives 1 and 3

Hazardous fuels reduction along Skyway (within County ROW) under Alternative 1 and removal of vegetation and trees under Alternative 3 would generate noise through the operation of equipment, such as masticators, chippers, and chainsaws. The loudest equipment likely to be used would be

chainsaws and woodchippers, which can produce noise levels up to 85 Db and 88 Db, respectively, when perceived from approximately 50 feet away (Federal Highway Administration 2017). The implementation of Alternatives 1 and 3 would increase noise levels within the immediate vicinity of the work for the duration of the work. However, increases in noise levels would be minor and short term at any one location. In addition, all work would occur during daytime hours. Vehicle and equipment run times would be kept to a minimum.

Alternative 2

Alternative 2 would not directly support construction. However, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. As a result, additional noise may be created by the equipment used for construction facilitated by the Assistance Program. Noise produced by vehicles and construction equipment would be localized, temporary, and indiscernible from existing reconstruction activities occurring within the project area. Increases in noise levels under Alternative 2 would be minor and short-term.

Cumulative Consequences of the Action Alternatives

The action alternatives would generate noise through the operation of vehicles and construction equipment. Under Alternatives 1 and 3, all work would occur during daytime hours and vehicle and equipment run times would be kept to a minimum. Under Alternative 2, noise would be localized, temporary, and indiscernible from existing reconstruction activities occurring within the project area. Because project activities would be dispersed throughout a large area, it is unlikely that noise generated by the different action alternatives would overlap. If different project activities were to occur near one another, impacts would remain less than minor. Therefore, cumulative increases in noise levels under the action alternatives would be minor and short-term.

4.15. Transportation

The project area consists of the northeastern unincorporated portion of Butte County, which is mostly zoned as timber mountain/production areas and for rural use (Butte County 2019b), resulting in few major highways being present in the area. The project area can be accessed from other parts of the County by State Highway 70, which runs northeast into the area, and Deer Creek Highway 32, which runs north–south through the area. These highways connect to Highway 149 and Highway 99 respectively, providing access to the rest of the County.

The following are designated as regionally-significant roads in the project area: Cohasset Road, which runs from Eaton Road to the Tehama County line; Skyway Road, which runs east–west from Chico to Paradise and north–south from Paradise to Butte Meadows; Pentz Road, which runs from State Route 70 north of Paradise; Centerville Road, which runs north between Chico and Paradise; Nimshew Road, which originates in Chico and terminates north of Magalia; and Oroville-Quincy Highway, the continuation of State Route 162 east of Oroville, which travels to the Plumas County line. Many of these regionally significant roads are designated evacuation routes, which are key areas for both the ROW Project and the BCFSC Program. All of the major evacuation routes in the project area are detailed in **Figure 1-2**.

Butte County is served by Butte Regional Transit, "B-Line," which provides public transportation in Chico, Paradise/Magalia, Oroville/Palermo, and Gridley/Biggs. Many of the public transportation routes frequent roads that are designated as evacuation routes.

4.15.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, existing conditions would not change significantly. At-risk property owners, in tandem with the county or local groups, may implement small-scale fuels reduction work within the project area over time This limited activity would be spread out spatially and temporally; thus, transportation in the County would not be directly affected. However, the potential for a major wildfire to spread along evacuation routes within the project area would remain high. Wildfire may encroach upon roadways and wildfire smoke may inhibit the ability to see roadways clearly. Furthermore, with limited emergency vehicle and evacuation route access, the spread of wildfire could increase risks for residents and firefighters. Inadequate or unsafe evacuation routes can have devastating consequences on residents of an area. Therefore, minor to major adverse impacts may occur on traffic and transportation in the County, depending on the scale, intensity, and location of a fire.

4.15.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

In the long term, the action alternatives would improve the safety of key evacuation routes in the County, providing for safer evacuation for residents and access for emergency personnel. As such, the action alternatives would have a moderate to major, beneficial impact on traffic and transportation.

Project-Specific Consequences

Alternative 1

For hazardous fuels reduction along the ROW under Alternative 1, crews would access the project area from existing roads. Staging of construction equipment and vehicles would occur along roadways. Equipment for mowing and cutting of small trees would operate from the road shoulder. The hazardous fuel reduction work under Alterative 1 would require a small number of vehicles for a short duration in any one location and crews would direct traffic around the equipment safety zone. Therefore, there would be negligible to minor localized impacts on traffic in the short term under Alternative 1.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and the overall number of residences being rebuilt is not expected to change. Alternative 2 would take place on existing lots and there would be no direct effect on roads or transportation. No detours or road closures would be required. Therefore, Alternative 2 would have no impact on traffic and transportation.

Alternative 3

Under Alternative 3, crews would access treatment areas from existing roads and driveways. Staging of construction equipment and vehicles would occur along access roads or other previously disturbed areas at private residential properties. However, some treatment activities may extend into the ROW, with equipment accessing some parcels from public roads to reach areas where trees and vegetation need to be cut. Alternative 3 would require a small number of vehicles for a short duration in any one location and crews would direct traffic around the equipment safety zone. Therefore, there would be negligible to minor localized impacts on traffic in the short term under Alternative 3.

Cumulative Consequences of the Action Alternatives

Under Alternatives 1 and 3, there would be an impact on traffic and transportation from the staging of equipment and vehicles along roadways. Alternative 2 would have no impact on traffic and transportation. There would be negligible to minor cumulative localized impacts on traffic in the short term under the action alternatives.

4.16. Utilities

Electric power is provided to Butte County via main overhead powerlines and gas services via underground pipes by Pacific Gas and Electric (PG&E). Wastewater disposal is provided through a variety of service districts and community systems. In most of the unincorporated County (composing the project area), wastewater disposal occurs via private on-site septic systems (Butte County 2021). Local water companies and water districts in the County manage domestic water supply, including water used for drinking, residential, and commercial uses (Butte County 2021).

4.16.1. NO ACTION ALTERNATIVE

Although some hazardous fuel removal and defensible space creation could occur by at-risk property owners on their own initiative under the No Action Alternative, the risk of wildfire damage to homes and structures would remain high. Electrical services provided via overhead power lines would continue to be at risk of damage from wildfires. Damage to drinking water utilities from wildfires may include difficulty reaching the drinking water utility during or after the fire because of road closures, fire hazards, or debris in the road, as well as the water utility losing power as a result of the wildfire, long-term reduction in source-water quality, short-term contamination of drinking water sources, need for additional water sampling, loss of source water, and water demand in excess of water production (The Cadmus Group, Inc. 2013). Most of the functional components of a septic system are usually several feet belowground and therefore are typically resistant to fire damage. However, it is possible that firefighting activities, such as digging fire breaks or staging of equipment, may damage septic systems (Montana Department of Environmental Quality 2012). Thus, impacts on private and public utilities could be minor to major, depending on the intensity and scale of a wildfire.

4.16.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

In the short term, the action alternatives is not expected to adversely affect utilities. However, crews would work near power lines and other infrastructure during project activities, which could result in unintentional short-term disruptions in services. Therefore, the action alternatives could have negligible short-term effects on utilities and utility users. The action alternatives would not create additional demand on utilities, as Alternative 2 would include the replacement of previously existing structures. In the long term, the action alternatives would reduce the risk of damage to public and private utilities from road closures or fire hazards. Removal of hazardous fuels along evacuation routes where power lines are present could provide protection to overhead powerlines by reducing the canopy cover that could interact with the lines and reduce the potential for powerlines to spark a fire. The removal of hazardous fuels and the creation of defensible space under Alternatives 1 and 3 would reduce the risk to structures during a wildfire, therefore reducing the risk of damage to private utilities within homesites due to firefighting activities. Therefore, the action alternatives could have minor, long-term, and beneficial effects on utilities and utility users.

Project-Specific Consequences

No project-specific consequences are anticipated.

4.17. Public Health and Safety

As described in Section 2, Butte County has a history of wildfires that are fueled by the combination of hot, dry summers, autumn wind events, and brush-type fuels that are characteristic of the area. Wildfire smoke can exacerbate respiratory health issues, such as asthma and chronic obstructive pulmonary disease. Wildfire smoke may contribute to respiratory infections and cardiovascular concerns (Reid et al. 2016). The eastern portion of Butte County has an extremely high wildfire risk and is within a WUI area, where homes and forests intermingle. The threat of wildfire and potential losses of life and property are increasing as human development and population increase and the WUI areas expand.

Butte County Fire Department, which has contracted with the California Department of Forestry and Fire Protection since 1931 to function as a fully consolidated fire protection agency, is responsible for providing Butte County with fire protection and emergency response services. Emergency response services are also provided by Butte County Emergency Medical Services. Police services are provided by various county, state, and federal agencies including the Butte County Sheriff, police departments in incorporated cities and towns, California Highway Patrol, and USFS.

4.17.1. NO ACTION ALTERNATIVE

Under the No Action Alternative, small-scale fuels reduction work would be implemented by Butte County, at-risk property owners, or other local groups over time; however, current conditions would not substantively change, and the risk of wildfire spread along evacuation routes would remain high. Wildfire may encroach upon roadways and wildfire smoke may inhibit the ability to see roadways

clearly. Furthermore, with limited emergency vehicle and evacuation route access, the spread of wildfire could increase risks for residents and firefighters. Inadequate or unsafe evacuation routes can have devastating consequences on residents of an area.

In the event of a wildfire, there is an increased risk to public health and safety and to the services established to protect public safety, such as clinics and police and fire stations, and the emergency response personnel who staff those facilities. Fires that burn residences can release toxic materials into the air, soils, and water, posing health risks to populations both during the fire and later during cleanup and recovery (CalRecycle 2020). Under the No Action Alternative, there could be minor to major impacts on public health and safety depending on the scale and intensity of a wildfire.

4.17.2. ACTION ALTERNATIVES

General Consequences of the Action Alternatives

No general consequences under all action alternatives are anticipated; refer to project-specific consequences below.

Project-Specific Consequences

Alternatives 1 and 3

Alternatives 1 and 3 would require staging of vehicles and equipment along roadsides and in driveways, which could result in temporary traffic disruptions. Crews would direct traffic around staged equipment and would ensure emergency access through the work zones. Therefore, there would be a negligible impact on public health and safety from staging and use of vehicles and equipment.

Under Alternatives 1 and 3, the reduction of hazardous fuels near the Skyway and clearing of defensible space around homesites near evacuation routes would help improve the safety of evacuation routes, routes for emergency responders, and the resilience of structures. Clear roadways during a wildfire would help residents safely evacuate, allow access for first responders, and reduce the loss of life. These actions would also create a safer environment for the public and would allow firefighters to better prevent damage to structures. Although Alternatives 1 and 3 would not prevent wildfires, the activities would contribute to containment, and ultimately reducing health and safety risks for people living in and near the project area. Therefore, Alternatives 1 and 3 would have a moderate to major, long-term, beneficial effect on public health and safety.

Alternative 2

Under Alternative 2, building permits would be issued at a faster speed, which is anticipated to result in increased construction in rebuild areas. However, Alternative 2 would not directly support construction and the overall number of residences being rebuilt is not expected to change. Alternative 2 would not impact public health and safety in the short term, because no roadway detours or closures would occur that would impact emergency response times (Section 4.15). In the long term, code enforcement and permits that result in rebuilding to current codes would increase

the number of homes in compliance with defensible space codes, thereby reducing fire hazards, resulting in a minor, long-term, and beneficial effect on public health and safety.

Cumulative Consequences of the Action Alternatives

As previously discussed, there would be a negligible impact on public health and safety under Alternatives 1 and 3 from staging and use of vehicles and equipment. Alternative 2 would not impact public health and safety in the short term, because no roadway detours or closures would occur that would impact emergency response times (Section 4.15). Implementation of the action alternatives would have a long-term cumulative beneficial effect on public health and safety.

4.18. Summary of Action Alternatives Effects and Mitigation

Table 4.6 provides a summary of the potential environmental effects from implementation of the action alternatives, any required agency coordination efforts or permits, and any applicable proposed mitigation or BMPs.

Table 4.6. Summary of Impacts and Mitigation

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Soils	Negligible short-term impact on soils, and negligible long-term benefit on soils by reducing the risk of soil damage and erosion from wildfires around homes and structures within the project area.	Not Applicable (N/A)	• Vegetation larger than 8 inches DBH would be retained (*Alternative 1*). • Equipment would be limited to chainsaws and hand tools for defensible space creation *(Alternative 3)*. • Root balls would not be disturbed during project implementation *(Alternatives 1 and 3)*.
Visual Quality and Aesthetics	Negligible to minor short-term adverse effects; minor long-term beneficial effects from reducing the risk that wildfires would damage homes and structures.	N/A	• Vegetation larger than 8 inches DBH would be retained during hazardous fuel removal activities *(Alternative 1)*.

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Air Quality and Climate	Minor short-term impacts from vehicle and equipment use and activities contributing to the release of fugitive dust; minor long-term beneficial effect by reducing the risk that wildfires would damage homes and structures.	N/A	• Contractors would comply with state and federal guidance regarding vehicle and equipment idling times *(All Action Alternatives)*.
Surface Waters and Water Quality	Negligible short-term impact; negligible long-term beneficial effect by reducing the risk that wildfires would damage homes and structures.	N/A	• Herbicide use would comply with state and federal regulations (*Alternative 1)*. • Vegetation larger than 8 inches in DBH would be retained during hazardous fuel removal activities *(Alternative 1)*. • Minimum 25-foot to 150-foot buffer placed around water resources (*Alternatives 1 and 3*). • Root balls would not be disturbed during project implementation (*Alternative 1 and 3*).
Wetlands	Negligible short-term impacts on wetlands from implementation; negligible long-term beneficial effect by reducing the risk that wildfires would damage homes and structures.	N/A	• Minimum 25-foot to 150-foot buffer placed around water resources as recommended by NMFS(*Alternative 1 and 3*). • All staging would be kept at least 300 feet from any vernal pool, vernal pool grassland, or wetland *(Alternatives 1 and 3)*.

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Floodplains	No effect; however, there would be a negligible long-term beneficial effect on floodplains by reducing the risk that wildfires would damage structures and remaining vegetation within the project area.	N/A	N/A
Vegetation	Minor short-term adverse effect on existing vegetation communities and invasive species spread from ground disturbance; minor long-term beneficial effect by reducing the risk of vegetation loss and invasive species within the treatment vicinity.	N/A	• Beneficial vegetation greater than 8 inches DBH would be retained *(Alternative 1)*. • Herbicide treatments would be used for maintenance to prevent weed growth (*Alternative 1)*. • Implementation of an invasive species management plan (*Alternative 3*).
Fish and Wildlife	Minor short-term adverse impact on wildlife and migratory birds from vegetation removal; no short-term effect on fish species; minor short-term adverse impact on migratory birds from vegetation removal; negligible short-term impact on eagles. Minor long-term beneficial effect by reducing the risk of vegetation loss within the treatment vicinity.	USFWS	• Minimum 25-foot to 150-foot buffer placed around aquatic habitats (*Alternatives 1 and 3*). • If vegetation removal during the nesting season (March 15 to July 31) cannot be avoided, Butte County and BCFSC would be responsible for determining whether active nests are present prior to clearing and obtaining and complying with any necessary permits from USFWS (*Alternatives 1 and 3*).

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Threatened and Endangered Species	The project may affect, but is not likely to adversely affect, California red-legged frog, foothill yellow-legged frog, Sierra Nevada yellow-legged frog, California spotted owl, yellow-billed cuckoo, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, CVSR Chinook salmon, CCV steelhead, valley elderberry longhorn beetle, Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, Layne's butterweed, and slender Orcutt grass. Therefore, the project would have negligible short-term impacts on listed and proposed species. Minor long-term beneficial effect by reducing the risk of vegetation loss within the treatment vicinity.	USFWS and NMFS	• Minimum 150-foot no-work buffer around waterbodies where ESA-listed fish may be present (*Alternatives 1 and 3*). • Minimum 100-foot buffer placed around non-fish aquatic species habitats (*Alternatives 1 and 3*). • Minimum 25-foot to 150-foot no-work buffer around waterbodies with no habitat for aquatic species (*Alternatives 1 and 3*). • Implementation of general and species-specific avoidance and minimization measures from USFWS consultation (*Alternatives 1 and 3*).

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Cultural Resources	No Adverse Effect on Historic Properties	SHPO	• FEMA will implement measures contained in the Programmatic Agreement to resolve adverse effects that may be identified on a case-by-case basis (*Alternatives 1 and 3*). • In the event that any archaeological resources are discovered during project implementation, work would immediately cease, the area would be secured, and Butte County would notify the SHPO and FEMA for further evaluation (*Alternatives 1 and 3*).
Environmental Justice	No disproportionately high and adverse impacts; beneficial effect from implementation of the action alternatives.	N/A	N/A

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Hazardous Materials	Negligible short-term contamination threat from vehicle and equipment use; minor long-term benefit on hazardous materials.	N/A	• Equipment would be kept in good condition (*All Action Alternatives*). • Any spills or leaks from equipment would be contained and cleaned up immediately (*All Action Alternatives*). • All equipment and project activities would adhere to state and local regulations to reduce the risk of hazardous leaks and spills (*All Action Alternatives*). • Only herbicides in compliance with local environmental health regulations and permits would be used and herbicides would be applied using methods to limit unnecessary exposure (*Alternative 1)*.
Noise	Minor short-term impacts from increased noise in the immediate vicinity of the work; no long-term noise impacts.	N/A	• Noise-producing equipment use would occur during less-sensitive, daytime hours (7 a.m. to 10 p.m.) (*All Action Alternatives*). • Vehicle and equipment run times would be kept to a minimum (*All Action Alternatives*).

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Transportation	Negligible to minor short-term localized impact from vehicle staging on roadsides. Moderate to major long-term beneficial effect by improving the safety of evacuation routes.	N/A	• Crews would direct traffic around the equipment safety zone (*Alternatives 1 and 3*).
Utilities	Negligible short-term impact; minor long-term beneficial effects by reducing the risk of risk of damage to public and private utilities.	N/A	N/A
Public Health and Safety	Negligible short-term impact; moderate to major long-term beneficial effects by improving the safety of evacuation routes.	N/A	N/A

SECTION 5. Cumulative Effects

This section addresses the potential cumulative effects associated with the implementation of the action alternatives. As defined by the Code of Federal Regulations, cumulative effects are effects on the environment that result from the incremental effects of the action alternatives when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes those other actions (40 CFR § 1508.1, 2022). CEQ's regulations for implementing NEPA require an assessment of cumulative effects during the decision-making process for federal projects. The Code also states that cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

PG&E implemented an Enhanced Vegetation Management Program in 2019 to remove hazardous trees near distribution lines, including the removal of hazardous trees within Butte County. While the Enhanced Vegetation Management Program ended in 2022, PG&E is continuing efforts to reduce wildfire ignition risk through their Community Wildfire Safety Program, which includes managing trees and vegetation near distribution lines as well as undergrounding distribution lines (PG&E 2023). Twice per year, PG&E conducts regular tree-trimming maintenance within Butte County, inspecting trees around distribution lines for hazards (PG&E 2023). Hazardous trees have also been removed within Butte County under FEMA and the State's Camp Fire Hazard Tree Removal Program.

The California Department of Transportation (Caltrans) helps control the vegetation along the state highways to reduce the risk of wildfire within Butte County, including State Route 99, State Route 70, and State Route 149. To control vegetation, Caltrans implements an Integrated Vegetation Management Plan composed of assorted methods for keeping vegetation in check, including herbicide spraying, mowing, weed whacking, hand removal, and livestock grazing (Caltrans 2023).

The BCFSC and Butte County participate in the 2015 Butte County Community Wildfire Protection Plan, which outlines pre-fire strategies and tactics to be implemented in cooperation with the fire agencies in Butte County, local community groups, and landowners. Other wildfire mitigation and reconstruction efforts could combine potential effects with the action alternatives with respect to effects on soils, visual quality and aesthetics, air quality and climate, surface waters and water quality, wetlands, vegetation, fish and wildlife, hazardous materials, noise, and transportation. However, it is unlikely that there would be significant cumulative impacts because in most cases there would be temporal and spatial separation between activities. These activities would result in long-term cumulative beneficial effects and would complement the action alternatives by making structures more resilient against wildfires and improving the safety of evacuation and emergency access routes.

SECTION 6. Agency Coordination, Public Involvement, and Permits

This section provides a summary of the agency coordination efforts and public involvement process for the action alternatives. In addition, an overview of the permits that would be required under the action alternatives is included.

6.1. Agency Coordination

On September 19, 2023, FEMA initiated consultation with 11 Tribes about the action alternatives to solicit comments and request any additional information about cultural resources that may be impacted by the action alternatives. Tribes contacted included the Berry Creek Rancheria of Maidu Indians, Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Greenville Rancheria of Maidu Indians, Grindstone Indian Rancheria of Wintun-Wailaki Indians of California, KonKow Valley Band of Maidu, Mechoopda Indian Tribe, Mooretown Rancheria of Maidu Indians, Nevada City Rancheria Nisenan Tribe, Tsi Akim Maidu, United Auburn Indian Community of the Auburn Rancheria, and the Washoe Tribe of Nevada and California. The Tribal Historic Preservation Officer of the Mechoopda Indian Tribe responded on September 21, 2023, to note that the Tribe would like to participate in the project, as it is within the Tribe's ancestral territory and is highly sensitive, with several cultural sites within or near the APE. The Tribe also requested that all regulatory mechanisms be followed to protect cultural resources. The Tribal Historic Preservation Officer of Mooretown Rancheria of Maidu Indians responded on October 17, 2023, stating they would like to participate in the project. A tribal monitoring plan is being prepared and will be included as an addendum to the Programmatic Agreement.

On September 19, 2023, FEMA submitted a Biological Assessment to USFWS and NMFS and requested concurrence with a 'may affect but not likely to adversely affect' determination for California red-legged frog, foothill yellow-legged frog, Sierra Nevada yellow-legged frog, California spotted owl, western yellow-billed cuckoo, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, slender Orcutt grass, Central Valley spring-run Chinook salmon, California Central Valley steelhead, Valley elderberry longhorn beetle, and Layne's butterweed. USFWS concurred on November 9, 2023, and NMFS concurred on December 15, 2023, that the project may affect, but is not likely to adversely affect, listed species.

Appendix C provides a copy of agency and tribal correspondence.

6.2. Public Participation

In accordance with NEPA, this draft EA will be released to the public and resource agencies for a 30-day public review and comment period. Comments on this draft EA will be incorporated into the final EA, as appropriate. This draft EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration

any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. If no substantive comments are received from the public or agency reviewers, this draft EA will be assumed to be final and a Finding of No Significant Impact will be issued by FEMA.

A public scoping notice and fact sheet about the project action was published on FEMA's website (https://www.fema.gov/disaster-federal-register-notice/dr-4407-ca-public-notice-009) and in the local newspaper on January 10, 2023, to notify and provide the public with an opportunity to comment on the action alternatives, potential alternatives, and preliminary identification of environmental issues. The public comment period on scoping closed on February 9, 2023. FEMA, Butte County, and BCFSC did not receive any comments.

The draft EA will be available to the public for review on FEMA's website at: https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa/environmental-assessment-wildfire. Butte County will make the draft EA available on its website at: https://www.buttecounty.net/363/Environmental-Review-Documents. BCFSC will make the draft EA available on its website at: https://buttefiresafe.net/document-library/. Hard copies of the draft EA will be made available at 25 County Center Drive #200 Oroville, CA 95969 and 6569 Clark Road Paradise, CA 95969. The comment period for the draft EA will start when the public notice of EA availability is published and will extend for 30 days. Comments on the draft EA may be submitted to fema-rix-ehp-documents@fema.dhs.gov (include 'Butte County EA' in the subject line). Comments also may be submitted via mail to the following:

Aaron Clark
Acting Regional Environmental Officer
FEMA Region 9
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

6.3. Permits

Butte County and BCFSC will be responsible for obtaining, or ensuring property owners obtain any necessary local, state, or federal permits needed to conduct the proposed work.

SECTION 7. List of Preparers

The following is a list of preparers who contributed to the development of the Butte County Wildfire Mitigation Projects draft EA 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 EA are appreciated.

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Campagna, Laura[1]	Environmental Planner	NEPA Documentation
Fogler, Wilson[1]	Biologist	Biological Resources
Lea, Claudia[1] PE, PMP	Project Manager	Project Manager
Medin, Anmarie[2], MA	Senior Archaeologist	Cultural Resources
Quan, Jenna[1]	Environmental Planner	NEPA Documentation
Shepard, Brian[1]	GIS Specialist	GIS
Stenberg, Kate[1] PhD	PhD, Senior Biologist, Senior Planner	Technical Review
Woodruff, Abbie[1]	Environmental Planner	NEPA Documentation

[1] *CDM Smith*

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Federal Emergency Management Agency

Reviewers	Role in Preparation
Holm, Lisa	NHPA/SHPO Consultation, Technical Review and Approval
Roberts, Lisa	ESA/BA

This document was prepared by CDM Smith under Contract No.: HSFE60-15-D-0015, Task Order: 70FA6020D00000003; and WSP Contract No.: 70FA6020D00000003, Task Order: 70FA6022F00000001.

SECTION 8. References

Allen, B.H. 2005. "California Wildlife Habitat Relationships System: Sierran Mixed Conifer." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67311&inline.

Anderson, R. 2005. "California Wildlife Habitat Relationships System: Montane Hardwood-Conifer." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67336&inline.

Barrett, R.H. 2005. "California Wildlife Habitat Relationships System: Red Fir." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67307&inline.

Butte County. 2022. Butte County Fire History Map. Accessed March 29, 2024, https://www.buttecounty.net/ImageRepository/Document?documentId=2834.

_____. 2021. Butte County General Plan 2040. Accessed April 5, 2022, https://www.buttecounty.net/367/Butte-County-General-Plan-2040.

_____. 2019a. Local Hazard Mitigation Plan. Accessed December 18, 2023, https://www.buttecounty.net/808/Local-Hazard-Mitigation-Plan.

_____. 2019b. Butte County Zoning Map. Accessed April 4, 2022, https://www.buttecounty.net/DocumentCenter/View/2892/Zoning-Ordinance-Map-PDF?bidId=.

_____. 2010. 2030 *Butte County General Plan Draft Environmental Impact Report*. Accessed March 31, 2023, https://www.buttecounty.net/DocumentCenter/View/1883/General-Plan-2030-EIR-Public-Review-Draft-PDF?bidId=.

Butte County Association of Governments. 2019. *Butte Regional Conservation Plan*. Accessed March 3, 2023, http://www.buttehcp.com/BRCP-Documents/Final-BRCP/index.html.

Butte County Fire Safe Council (BCFSC). 2017. Who We Are. Accessed December 19, 2023, https://buttefiresafe.net/who-we-are/.

Cadmus Group, Inc. 2013. Report on the Effects of Wildfire on Drinking Water Utilities and Effective Practices for Wildfire Risk Reduction and Mitigation. Accessed April 20, 2022, https://www.researchgate.net/publication/287533409_Effects_of_Wildfire_on_Drinking_Water_Utilities_and_Best_Practices_for_Wildfire_Risk_Reduction_and_Mitigation.

Cal-Adapt. 2022. "Climate Tools: Local Climate Change Snapshot for Butte County." Accessed September 21, 2022, https://cal-adapt.org/tools/local-climate-change-snapshot.

California Air Resources Board. 2007. *Fugitive Dust Control Self-Inspection Handbook*. Accessed March 24, 2022, http://web.archive.org/web/20190225095006/https://www.arb.ca.gov/pm/fugitivedust_large.pdf.

California Coastal Commission. 2021. "Maps: Coastal Zone Boundary." Accessed December 22, 2021, https://www.coastal.ca.gov/maps/czb/.

California Council on Science and Technology (CCST). 2019. CCST Expert Briefing Series: Environmental Impacts of Wildfires in California. Accessed April 12, 2022, https://ccst.us/wp-content/uploads/CCST-One-Pager-Wildfire-Enviromental-Impacts-4-4-2019.pdf.

California Department of Fish and Wildlife (CDFW). 2023. California Natural Diversity Database (CNDDB) – Commercial version dated January 1, 2021, updated February 4, 2023. Accessed February 7, 2023, https://wildlife.ca.gov/data/cnddb/maps-and-data#43018407-rarefind-5.

———. 2020. "California Native Fish Species by Watershed." Accessed March 30, 2022, https://data.ca.gov/dataset/california-native-fish-species-by-watershed-ds1353.

California Department of Forestry and Fire Protection Resource Management, Forestry Practice Program (CDF). 2020. *California Forest Practice Rules 2020*. Accessed March 8, 2022, https://bof.fire.ca.gov/media/9478/2020-forest-practice-rules-and-act_final_ada.pdf.

California Department of Resources Recycling and Recovery (CalRecycle). 2020. "Wildfire Debris Cleanup and Recovery." Accessed April 12, 2022, https://calrecycle.ca.gov/disaster/wildfires/.

California Department of Transportation (Caltrans). 2023. Roadside Vegetation Control. Accessed December 19, 2023, https://dot.ca.gov/caltrans-near-me/district-4/d4-projects/roadside-vegetation-control.

California Invasive Plant Council (Cal-IPC). 2023. "Butte County Weed Management Area." Accessed March 30, 2023, https://www.cal-ipc.org/solutions/wmas/butte-wma/.

California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment: Sacramento Valley Region Report*. Accessed March 24, 2022, https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM-CCCA4-2018-002_SacramentoValley_ADA.pdf.

Cascio, W.E. 2018. "Wildland Fire Smoke and Human Health." *Science of the Total Environment* 624: 586–595. https://doi.org/10.1016/j.scitotenv.2017.12.086.

Council on Environmental Quality (CEQ). 2023. Interim NEPA Guidance on Consideration of Greenhouse Gas Emissions and the Effects on Climate Change. Accessed August 23, 2023, https://www.govinfo.gov/content/pkg/FR-2023-01-09/pdf/2023-00158.pdf.

_____. 2010. Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. Accessed August 23, 2023, https://ceq.doe.gov/docs/ceq-regulations-and-guidance/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf.

———. 1997. Environmental Justice: Guidance Under the National Environmental Policy Act. Accessed March 24, 2022, https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf.

Faust, E., and Steuer, M. 2019. "Climate Change Increases Wildfire Risk in California." *Munich RE*. Accessed April 12, 2022, https://www.munichre.com/topics-online/en/climate-change-and-natural-disasters/climate-change/climate-change-has-increased-wildfire-risk.html.

Federal Emergency Management Agency (FEMA). 2023. Butte County – Defensible Space and Vegetation Management Biological Assessment. August.

_____. 2022. California Wildfires DR-4407-CA. Accessed December 18, 2023. https://www.fema.gov/disaster/4407

Fitzhugh, E.L. 2005. "California Wildlife Habitat Relationships System: Ponderosa Pine." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67322&inline=.

Grenfell, W.E. Jr. 2005a. "California Wildlife Habitat Relationships System: Valley Foothill Riparian." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67352&inline.

Grenfell, W.E. Jr. 2005b. "California Wildlife Habitat Relationships System: Montane Riparian." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67350&inline.

Grenfell, W.E. Jr. 2005c. "California Wildlife Habitat Relationships System: Riverine." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67396&inline.

Houghton, K. 2020. "Wildfire's Toxic Air Leaves Damage Long after the Smoke Clears." *Missoula Current*. Accessed on April 14, 2022, https://khn.org/news/wildfires-toxic-air-leaves-damage-long-after-the-smoke-clears/.

Knapp, E.E., Valachovic, Y.S., Quarles, S.L. et al. 2021. "Housing Arrangement and Vegetation Factors Associated with Single-Family Home Survival in the 2018 Camp Fire, California." Fire Ecology. Accessed March 29, 2024, https://doi.org/10.1186/s42408-021-00117-0.

McBride, J.R., and C. Reid. 2005. "California Wildlife Habitat Relationships System: Urban." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67420&inline.

Montana Department of Environmental Quality. 2012. "Your Well and Septic System – After a Wildfire." Fact Sheet SWP-109, September 2012. Accessed April 20, 2022, https://www.cascadecountymt.gov/DocumentCenter/View/829/Wildfires-and-Your-Well-and-Septic-System-PDF.

National Interagency Fire Center. 2022. Wildfires and Acres. Accessed December 18, 2023. https://www.nifc.gov/fire-information/statistics/wildfires

National Marine Fisheries Service (NMFS). 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead. California Central Valley Area Office. July 2014.

National Oceanic and Atmospheric Administration. 2023. *Essential Fish Habitat Mapper*. Accessed March 30, 2023, https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper.

National Wild and Scenic Rivers System. 2020. Official Website. Accessed December 22, 2021, https://www.rivers.gov/.

Pacific Gas and Electric (PG&E). 2023. Community Wildfire Safety Program. Accessed December 18, 2023, https://www.pge.com/en/outages-and-safety/safety/community-wildfire-safety-program.html.

Reid, C.E., M. Brauer, F.H. Johnston, M. Jerrett, J.R. Balmes, and C.T. Elliott. 2016. "Critical Review of Health Impacts of Wildfire Smoke Exposure." *Environmental Health Perspectives* 124(9). [https://doi.org/10.1289/ehp.1409277].

Reiny, S. 2019. "Through Smoke and Fire, NASA Searches for Answers." *NASA Global Climate Change: Vital Signs of the Planet*. Accessed April 15, 2022, https://climate.nasa.gov/news/2892/through-smoke-and-fire-nasa-searches-for-answers/.

Ritter, L.V. 2005a. "California Wildlife Habitat Relationships System: Valley Oak Woodland." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67342&inline.

Ritter, L.V. 2005b. "California Wildlife Habitat Relationships System: Blue Oak Woodland." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67340&inline.

River Partners. 2021. *Paradise Reseeding Plan: Butte County, California*. Accessed June 9, 2022, https://acrobat.adobe.com/link/track?uri=urn%3Aaaid%3Ascds%3AUS%3A8f58d393-3e78-496d-aef6-770dc5718b8f#pageNum=1.

State Water Resources Control Board. 2022. 2018 California Section 303(d) List of Water Quality Limited Segments. Accessed March 22, 2022, https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html.

U.S. Climate Data. 2022. "Climate Magalia – California." Accessed March 22, 2022, https://www.usclimatedata.com/climate/magalia/california/united-states/usca2303.

U.S. Environmental Protection Agency (EPA). 2023a. Criteria Air Pollutants. Accessed August 23, 2023, https://www.epa.gov/criteria-air-pollutants.

———. 2023b. EPA Green Book. Data current as of July 31, 2023. Accessed August 12, 2023, https://www3.epa.gov/airquality/greenbook/ancl.html.

———. 2022a. Map of Sole Source Aquifer Locations. Accessed March 31, 2023, https://www.epa.gov/dwssa/map-sole-source-aquifer-locations.

———. 2022b. *EJScreen: Environmental Justice Screening and Mapping Tool* (Version 2.11). Accessed March 24, 2023, https://ejscreen.epa.gov/mapper/.

———. 2022c. *NEPA Assist's EnviroMapper Tool*. Accessed March 24, 2023, https://nepassisttool.epa.gov/nepassist/nepamap.aspx.

———. 2021. "Wildfire Smoke: A Complex Mixture." Accessed September 21, 2022, https://www.epa.gov/wildfire-smoke-course/why-wildfire-smoke-health-concern.

U.S. Environmental Protection Agency (EPA), U.S. Forest Service (USFS), U.S. Centers for Disease Control and Prevention, and California Air Resources Board. 2019. *Wildfire Smoke – A Guide for Public Health Officials, Revised*. Accessed March 24, 2022, https://oehha.ca.gov/media/downloads/public-information/report/wildfire-smoke-guide-revised-2019.pdf.

United States Department of Agriculture (USDA). 2017. *The California Spotted Owl: Current State of Knowledge*. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. General Technical Report PSW-GTR-254, August 2017.

U.S. Department of Agriculture (USDA) Natural Resource Conservation Service. 2022. *Web Soil Survey*. Accessed April 4, 2022, https://websoilsurvey.nrcs.usda.gov/app/.

U.S. Forest Service (USFS). 2005. *Wildland Fire in Ecosystems: Effects of Fire on Soil and Water*. General Technical Report RMRS-GTR-42-Volume4. Accessed April 4, 2022, https://www.fs.fed.us/rm/pubs/rmrs_gtr042_4.pdf.

U.S. Fish and Wildlife Service (USFWS). 2023a. *National Wetlands Inventory*. Accessed March 30, 2023, https://www.fws.gov/program/national-wetlands-inventory.

———. 2023b. *Information for Planning and Consultation*. Accessed March 31, 2023, https://ecos.fws.gov/ipac/.

———. 2023c. *USFWS Threatened & Endangered Species Active Critical Habitat Report*. Accessed March 30, 2023, https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

———. 2022. *Species Status Assessment Report for the California Spotted Owl* (Strix occidentalis occidentalis). Version 2.0. Sacramento, CA.

———. 2021a. *Coastal Barrier Resources System Mapper.* Accessed December 22, 2021, https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/.

———. 2021b. Information for Planning and Consultation. Accessed June 10, 2022, https://ecos.fws.gov/ipac/.

———. 2021c. "Endangered and Threatened Wildlife and Plants; Foothill Yellow-legged Frog; Threatened Status with Section 4(d) Rule for Two Distinct Population Segments and Endangered Status for Two Distinct Population Segments." Federal Register 86(246): 73914.

———. 2019. Programmatic Formal Section 7 Consultation of Federal Emergency Management Agency's Disaster, Mitigation, and Preparedness Programs within the Sacramento Fish and Wildlife Office's Jurisdiction, California. Sacramento, CA: USFWS Sacramento Fish and Wildlife Office.

———. 2013. "Endangered and Threatened Wildlife and Plants; Endangered Status for the Sierra Nevada Yellow-Legged Frog and the Northern Distinct Population Segment of the Mountain Yellow-Legged Frog, and Threatened Status for the Yosemite Toad." Federal Register 78: 24472–24514.

———. 2011. "Climate Change in the Pacific Northwest." Accessed April 22, 2022, http://web.archive.org/web/20111020145824/http://www.fws.gov/pacific/Climatechange/changepnw.html.

———. 2007a. Vernal Pool Fairy Shrimp 5-Year Review: Summary and Evaluation. USFWS Sacramento Fish and Wildlife Office, Sacramento, CA.

———. 2007b. Vernal Pool Tadpole Shrimp 5-Year Review: Summary and Evaluation. USFWS Sacramento Fish and Wildlife Office, Sacramento, CA.

———. 2006. *Valley Elderberry Longhorn Beetle* (Desmocerus cailfornicus dimorphus) *5-Year Review: Summary and Evaluation*. Accessed March 3, 2022, https://ecos.fws.gov/docs/five_year_review/doc779.pdf.

———. 2005. *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon*. Albania: Region 1, U.S. Fish and Wildlife Service, Ecological Services (Portland, Oregon).

———. 1996a. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Four Plants and Threatened Status for One Plant from the Central Sierran Foothills of California. Federal Register 61:54346–54358.

Verner, J. 2005. "California Wildlife Habitat Relationships System. Blue Oak-Foothill Pine." Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67346&inline.

Verner, J., and K.L. Purcell. 2005. “California Wildlife Habitat Relationships System: Subalpine Conifer.” Accessed March 3, 2022, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67305&inline.

Appendix A

Floodplain Management and Wetland Protection Eight-Step

Executive Order 11988 Floodplain Management Checklist (44 CFR Part 9)

Project Information

Date: 9/5/23 Reviewer: Abbie Woodruff

Disaster/Program: HMGP Project Number: 4407-020-144, 4407-497-56

Project Title: Butte County Wildfire Mitigation Projects

Latitude: 39.870088 Longitude: -121.570319

Description of Proposed Action:

Butte County and Butte County Fire Safe Council (BCFSC) proposes to implement three wildfire mitigation projects that are connected geographically, with each project to be funded under a separate FEMA grant. The three projects include: County Road Hazardous Fuels Reduction, removing brush and small trees within reach of the road along 12 miles of Skyway; Butte County Building Code

Applicability

Actions which have the potential to affect floodplains or their occupants, or which are subject to potential harm by location in floodplains.

Will the proposed action potentially adversely affect the floodplain or support floodplain development?

Yes ☒ No ☐

Will the proposed action potentially be adversely affected by the floodplain?

Yes ☒ No ☐

Critical Action

Determine whether the proposed action is an action for which even a slight chance of flooding is too great. Critical actions must be reviewed against the 500-year floodplain.

Is the action a critical action?

☐ Yes, review against the 500-year floodplain

☒ No, review against the 100-year floodplain.

☐ Not Applicable, the action is located in wetlands only

Step 1: Determine Proposed Action Location

Determine whether the proposed action is located in the 100-year floodplain (500-year floodplain for critical actions); and whether it has the potential to affect or be affected by a floodplain or wetland (44 CFR Section 9.7).

Floodplain Determination

Flood Hazard Data (Check the box that applies)

Is the project located in a 100 year floodplain as mapped by a FEMA FIRM?

Yes ☒ No ☐

FIRM Panel Number: 06007C0100E, 06007C0075E, 06007C0050E, 06

Date: January 6, 2011

Is the project located in a 500 year floodplain as mapped by a FEMA FIRM?

Yes ☐ No ☒

FIRM Panel Number:

Date:

Is the project located in a floodplain as mapped by a FEMA draft/preliminary study?

Yes ☐ No ☒

Study Name:

Date:

Is the project located in a floodplain as mapped by another agency (State, USACE, USGS, NRCS, local community, etc)?

Yes ☐ No ☒

Study Name:

Date:

Is the project outside the floodplain but has potential to affect the floodplain, including support of floodplain development?

Yes ☐ No ☒

Flood Hazard Data Not Available

Is the proposed action subject to flooding based on an evaluation from soil surveys, aerial photos, site visits, and other available data?

Yes ☐ No ☒

Evaluation material:

Does FEMA assume the Proposed Action is subject to flooding based on previous flooding of the facility/structure?

Yes ☐ No ☒

Floodway/Coastal High Hazard Area

Is the project located in a floodway or coastal high hazard area (full 8 step process is required)?

Yes ☒ No ☐

Source, other than FIRM:

Wetland Determination

Is the project in a wetland as mapped by the National Wetlands Inventory?

Yes ☒ No ☐

Wetland Classification: freshwater forested/shrub wetlands

Date: March 10, 2022

Is the project in a wetland as mapped by another agency (USACE, state, local community)?

Yes ☐ No ☒

Name of study:

Date:

Scope

Select the appropriate block for the steps required.

☐ Steps 1, 4, 5, and 8 (44 CFR Part 9.5(g))

☐ Steps 1, 2, 4, 5, and 8. (44 CFR Part 9.5(d))

☒ All 8 steps

Step 2: Early Public Notice

Notify the public at the earliest possible time of the intent to carry out an action in a floodplain and involve the affected and interested public in the decision-making process (44 CFR Section 9.8).

Was notice provided as part of a disaster cumulative notice?

Yes ☒ No ☐ Not Applicable ☐

Was a project specific notice provided?

Yes ☒ No ☐ Not Applicable ☐

If yes, select the type of notice:

☐ Newspaper, name:

☒ Post Site, location: https://www.fema.gov/disaste

☐ Broadcast, station:

☐ Direct Mailing, area:

☐ Public Meeting, dates:

☐ Other:

Date of Public Notice: January 10, 2023

Step 3: Analysis of Practicable Alternatives

Identify and evaluate practicable alternatives to locating the proposed action in a floodplain (including alternate sites, actions, and the "no action" option). If a practicable alternative exists outside the floodplain, FEMA must located the proposed action at the alternative site (44 CFR Section 9.9).

Alternative Options

Is there a practicable alternative site location outside the 100-year floodplain (or 500-year floodplain for critical actions?)

Yes ☐ No ☒ Not Applicable ☐

If yes, describe the alternative site:

The proposed action is the only practicable alternative despite exposure to flood risk and disruption of natural values. Minimization of harm to or within the floodplain can be achieved using all practicable means.

Is there an alternative action which has less potential to affect or be affected by the floodplain?

Yes ☐ No ☒ Not Applicable ☐

If yes, describe the alternative action:

Is the "no action" alternative the most practicable alternative?

Yes ☐ No ☒ Not Applicable ☒

If any answer is yes, that FEMA shall take that action and the review is concluded.

Floodway

Is the action new construction (i.e. construction of new structure, demolition/ rebuilding, reconstruction, replacement) or substantial improvement (for structures damaged in equal or excess of 50% of its market value or the total replacement cost of the structure)?

Yes ☐ No ☒ Not Applicable ☐

If Yes, is the action a functional dependent use (cannot perform its intended purpose unless it is located or carried out in close proximity to water) or a facility or structure that facilitates open space use?

Yes ☐ No ☐ Not Applicable ☐

If yes, explain:

If no, FEMA cannot fund this action

Is the action an alteration of a structure or facility listed on the National Register of Historic Places or a State Inventory of Historic Places?

Yes ☐ No ☐ Not Applicable ☐

If yes, then this is not substantial improvement and the action may proceed as long as it does not cause any increase of flood levels within the community during the occurrence of the base flood discharge.

Coastal High Hazard Zone

Is the action new construction (i.e. construction of new facility or structure, demolition/ rebuilding of facilities or structures, reconstruction of facilities or structures, replacement of facilities or structures)?

Yes ☐ No ☐ Not Applicable ☒

If Yes, is the action a functional dependent use (cannot perform its intended purpose unless it is located or carried out in close proximity to water) or a facility or structure that facilitates open space use?

Yes ☐ No ☐ Not Applicable ☐

If yes, explain:

If no, FEMA cannot fund this action.

Step 4: Identify Impacts

Identify the potential direct and indirect impacts associated with the occupancy or modification of the floodplains and the potential direct and indirect support of floodplain development that could result from the proposed action (44 CFR Section 9.10).

Is the proposed action based on incomplete information?

Yes ☐ No ☒ Not Applicable ☐

Is the proposed action in compliance with the NFIP?

Yes ☒ No ☐ Not Applicable ☐

Does the proposed action increase the risk of flood loss?

Yes ☐ No ☒ Not Applicable ☐

Will the proposed action result in an increased base discharge or increase the flood hazard potential to other properties or structures?

Yes ☐ No ☒ Not Applicable ☐

Does the proposed action minimize the impact of floods on human health, safety, or welfare?

Yes ☐ No ☒ Not Applicable ☐

Will the proposed action induce future growth and development, which will potentially adversely affect the floodplain?

Yes ☐ No ☒ Not Applicable ☐

Does the proposed action involve dredging and/or filling of a floodplain?

Yes ☐ No ☒ Not Applicable ☐

Will the proposed action result in the discharge of pollutants into the floodplain?

Yes ☐ No ☒ Not Applicable ☐

Does the proposed action avoid the long and short term impacts associate with the occupancy and modification of floodplains?

Yes ☒ No ☐ Not Applicable ☐

Note: If wetlands are near or potentially affected, refer review to an Environmental Specialist.

Will the proposed action forego an opportunity to restore the natural and beneficial values served by floodplains?

Yes ☐ No ☒ Not Applicable ☐

Does the proposed action restore and/or preserve the natural and beneficial values served by floodplains?

Yes ☒ No ☐ Not Applicable ☐

Will the proposed action result in an increase to the useful life of a structure or facility?

Yes ☐ No ☒ Not Applicable ☐

Will the action encroach on the Floodway in manner that causes any increase of flood levels within the community during the occurrence of the base flood discharge?

Yes ☐ No ☒ Not Applicable ☐

Step 4 Remarks:

The projects would not require any grading or fill and would not adversely affect the floodplain. The minimal vegetation removal would not cause and increase in flood elevations or modify the existing floodplain.

Step 5: Minimize Impacts

Minimize the potential adverse impacts and support to or within floodplains as identified under Step 4; restore and preserve the natural and beneficial values served by floodplains (44 CFR Section 9.11).

Minimization Measures

Were flood hazard reduction techniques (see NFIP technical bulletins) applied to the proposed action to minimize flood impacts? Note: New construction or substantial improvement of a structure (i.e. walled or roofed building) requires elevation or flood proofing (non-residential), except for listed Historic Structures.

Yes ☐ No ☐ Not Applicable ☒

Identify any flood hazard reduction techniques required as a condition of the grant:

Were avoidance and minimization measures applied to the proposed action to minimize the short-term and long-term impacts on the floodplain?

Yes ☒ No ☐ Not Applicable ☐

Identify minimization measures required as a condition of the grant:

In order to minimize the potential impacts on wetlands and floodplains, no vegetation removal would be performed near any wetlands, ponds, or rivers and a minimum 25-foot to 150-foot buffer would be placed around these resources, dependent upon

Were measures implemented to restore and preserve the natural and beneficial values of the floodplain?

Yes ☒ No ☐ Not Applicable ☐

Identify any restoration or preservation measures required as a condition of the grant:

Best management practices such as temporary silt fences and straw waddles would be employed to ensure that no sedimentation or pollutants enter the wetlands. Implementation of these measure would preserve the natural and beneficial values of

Floodway/Coastal High Hazard Areas

Is there a practicable alternative site location or action outside of the Floodway or coastal high hazard area (CHHA) (but within the floodplain)?

Yes ☐ No ☒ Not Applicable ☐

Site Location:

Is there a practicable alternative action outside of the Floodway or CHHA that will not affect the Floodway or CHHA?

Yes ☐ No ☒ Not Applicable ☐

Alternative Action:

Are functionally dependent new construction in the CHHA elevated on adequately anchored pilings or columns such that lowest portion of the structural members of the lowest floor are above base flood elevation? (**Note: The use of fill for elevation is prohibited in the CHHA**.)

Yes ☐ No ☒ Not Applicable ☐

Step 5 Remarks:

There are no practicable alternatives to avoid the floodway. Questions related to CHHA are not applicable because this project area is not within a coastal high hazard area.

Step 6: Reevaluate Practicable Alternatives

Reevaluate the proposed action to first determine if it is still practicable in light of its exposure to flood hazards, the extent to which it will aggravate the hazards to others, and its potential to disrupt floodplain values. Second, evaluate if alternatives preliminarily rejected at Step 3 are practicable in light of the information gained in Steps 4 and 5. FEMA shall not act in a floodplain unless it is the only practicable location (44 CFR Section 9.9)

Is the action still practicable at a floodplain site in light of the exposure to flood risk and ensuing disruption of natural values?

Yes ☒ No ☐ Not Applicable ☐

Is the floodplain site the only practicable alternative?

Yes ☒ No ☐ Not Applicable ☐

Is there any potential to limit the scope or size of the action to increase the practicability of previously-rejected non-floodplain sites or alternative actions?

Yes ☐ No ☒ Not Applicable ☐

Can minimization of harm to or within the floodplain be achieved using all practicable means?

Yes ☒ No ☐ Not Applicable ☐

Does the need for action in a floodplain clearly outweigh the requirements of Executive Order 11988?

Yes ☒ No ☐ Not Applicable ☐

Step 6 Remarks:

The proposed action is still practicable at a floodplain site (the only practicable alternative) in light of the exposure to flood risk and ensuing disruption of natural values; however, minimization of harm to or within the floodplain can be achieved using all practicable means. Therefore, the need for action in a floodplain clearly outweighs the requirements of Executive Order 11988.

Step 7: Final Public Notice

Prepare and provide the public with a finding and public explanation of any final decision that the floodplain is the only practicable alternative (44 CFR Section 9.12).

Was notice provided as part of a disaster cumulative notice?

Yes ☐ No ☒ Not Applicable ☐

Was a project specific notice provided?

Yes ☒ No ☐ Not Applicable ☐

If yes, select the type of notice:

☐ Newspaper, name:

☐ Post Site, location:

☐ Broadcast, station

☐ Direct Mailing, area:

☐ Public Meeting, dates:

☐ Other:

Date of Public Notice: TBD

After providing the final notice, FEMA shall, without good cause shown, wait at least 15 days before carrying out the proposed action.

Step 8: Implementation

Review the implementation and post-implementation phases of the proposed action to ensure that the requirements stated in 44 CFR Section 9.11 are fully implemented. Oversight responsibility shall be integrated into existing processes.

Was grant conditioned on review of implementation and post-implementation phases to ensure compliance of Executive Order 11988?

Yes ☐ No ☒ Not Applicable ☐

The following conditions are not reflected in the Scope of Work and are required:

This project is in compliance with the provisions outlined in Section 9.11. No additional conditions are required in the Scope of Work to meet the General Minimization provisions included in Section 9.11 (b) and (c).

Appendix B

Threatened and Endangered Species and Critical Habitat

Figure 1.
ROW Action Area

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

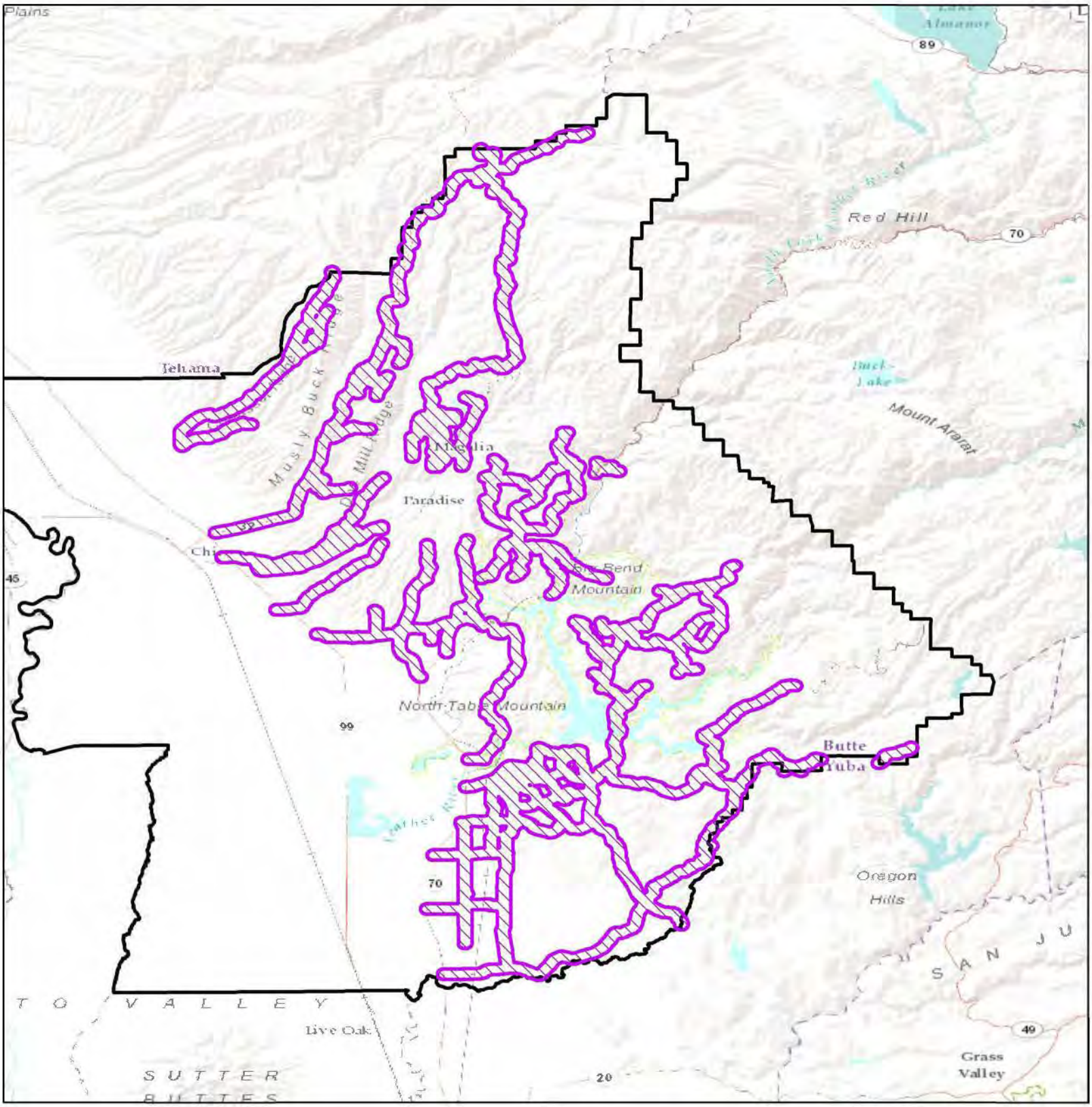


Figure 2.
BCFSC Action Area

0 5 10 20 Miles

N
W E
S

Legend

- BCFSC Action Area
- Butte County

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

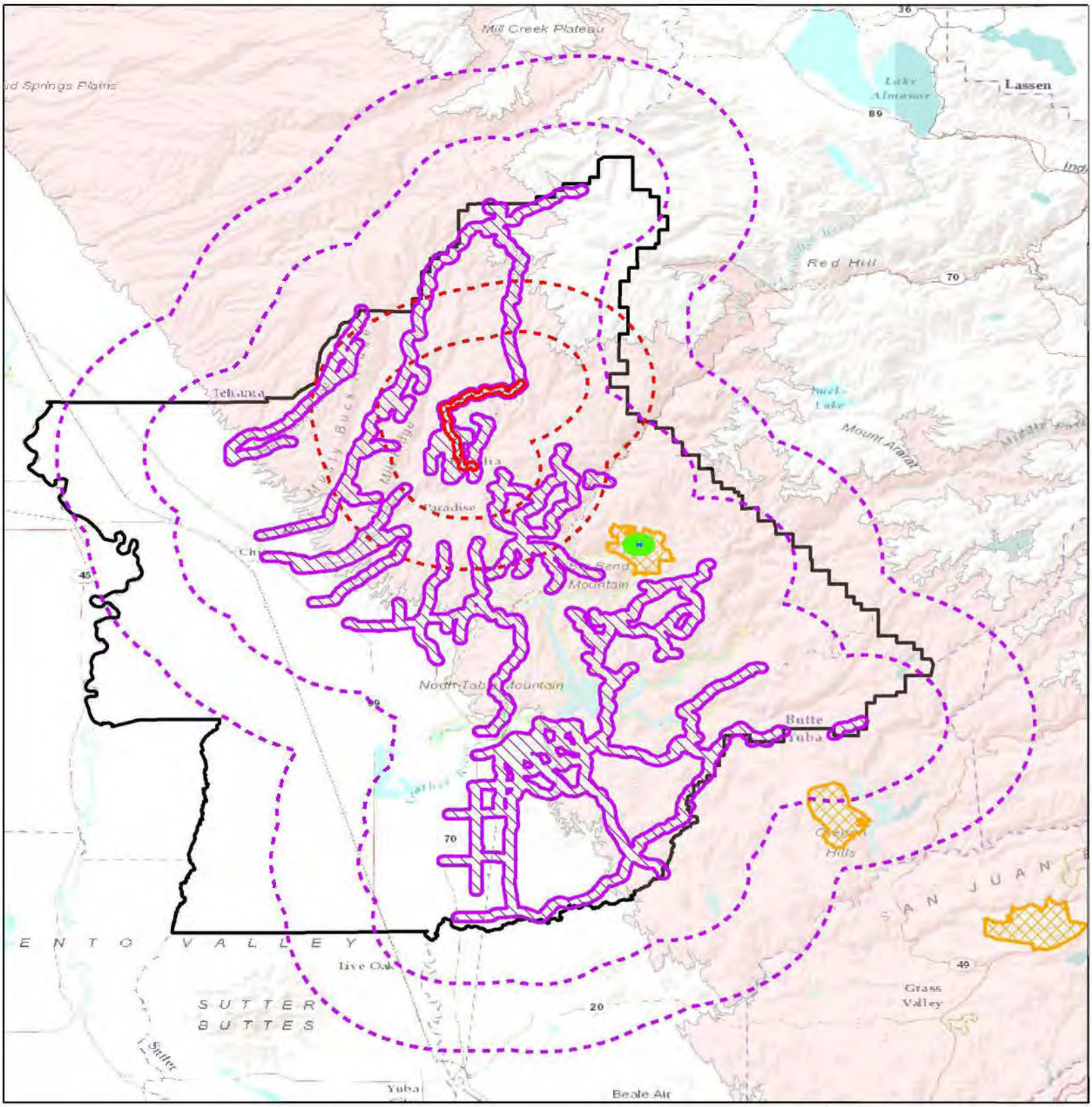


Figure 3.
CRLF

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

California Red-legged Frog

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

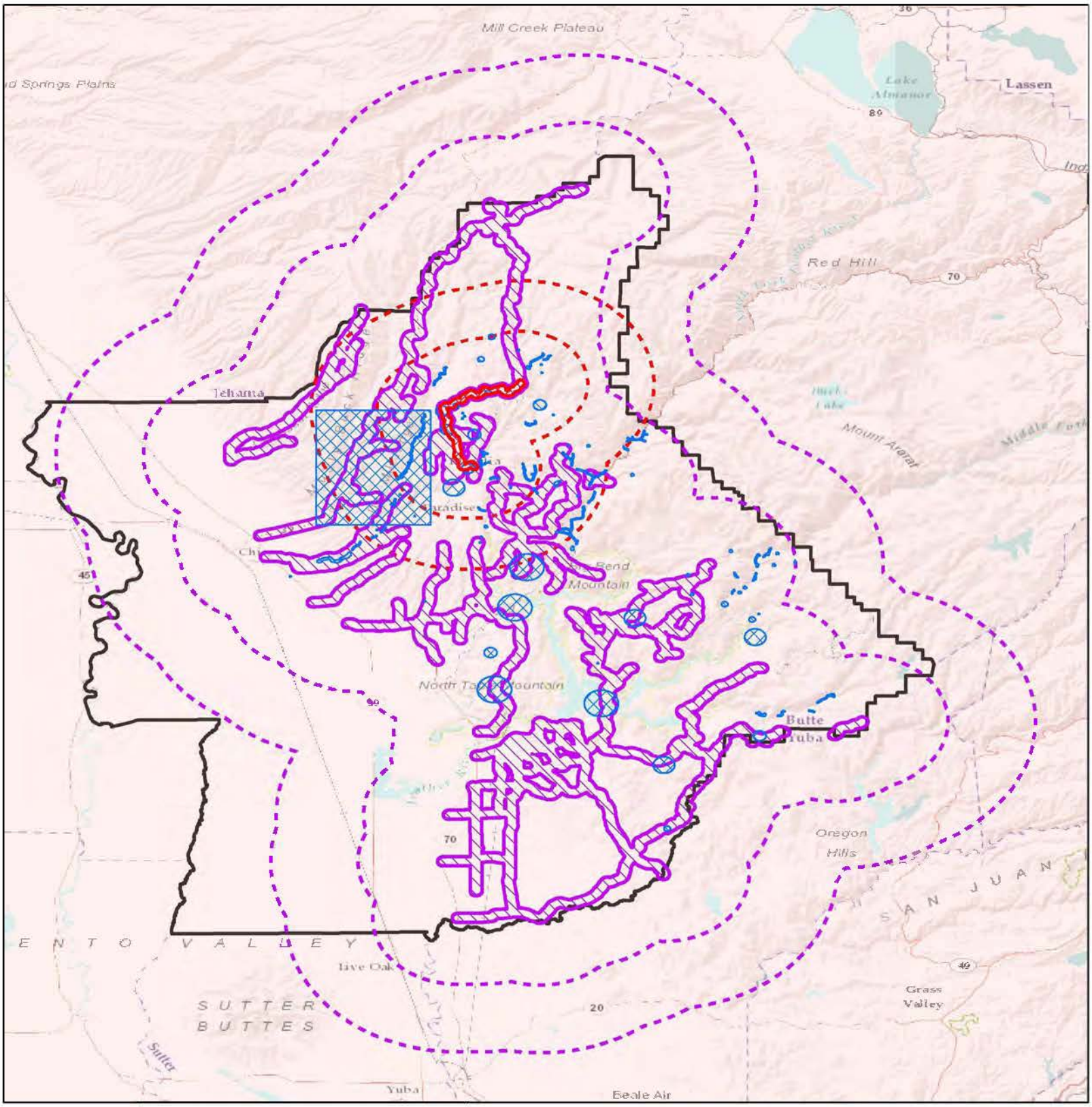


Figure 4.
FYLF

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Foothill Yellow-legged Frog

- CNDDB Occurrence
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

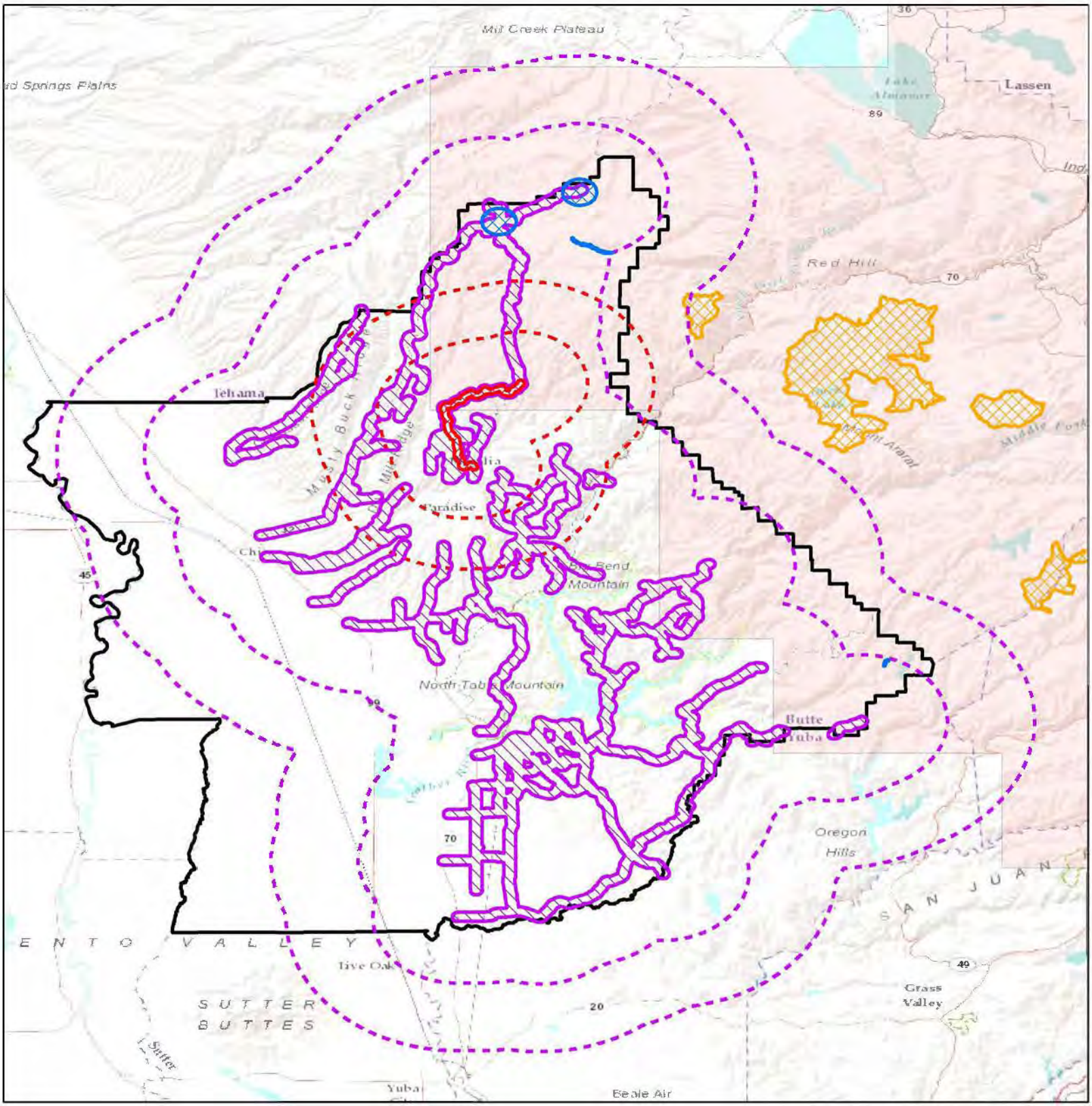


Figure 5.
SNYF

Legend

- ROW Action Area
- BCFSC_Action_Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Sierra Nevada Yellow-legged Frog

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

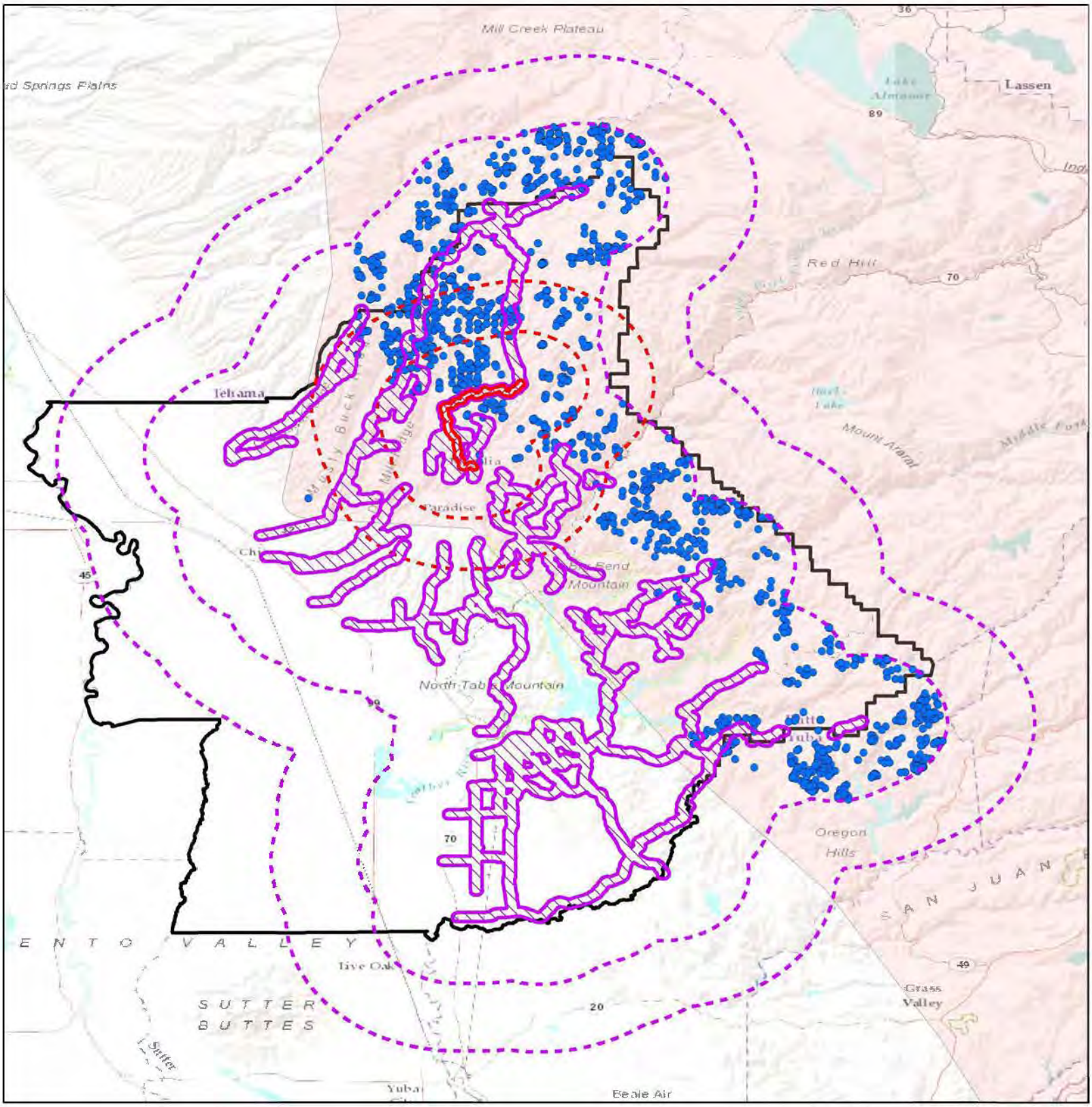


Figure 6.
CSO CNDDB

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

California Spotted Owl

- Spotted Owl Observations
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

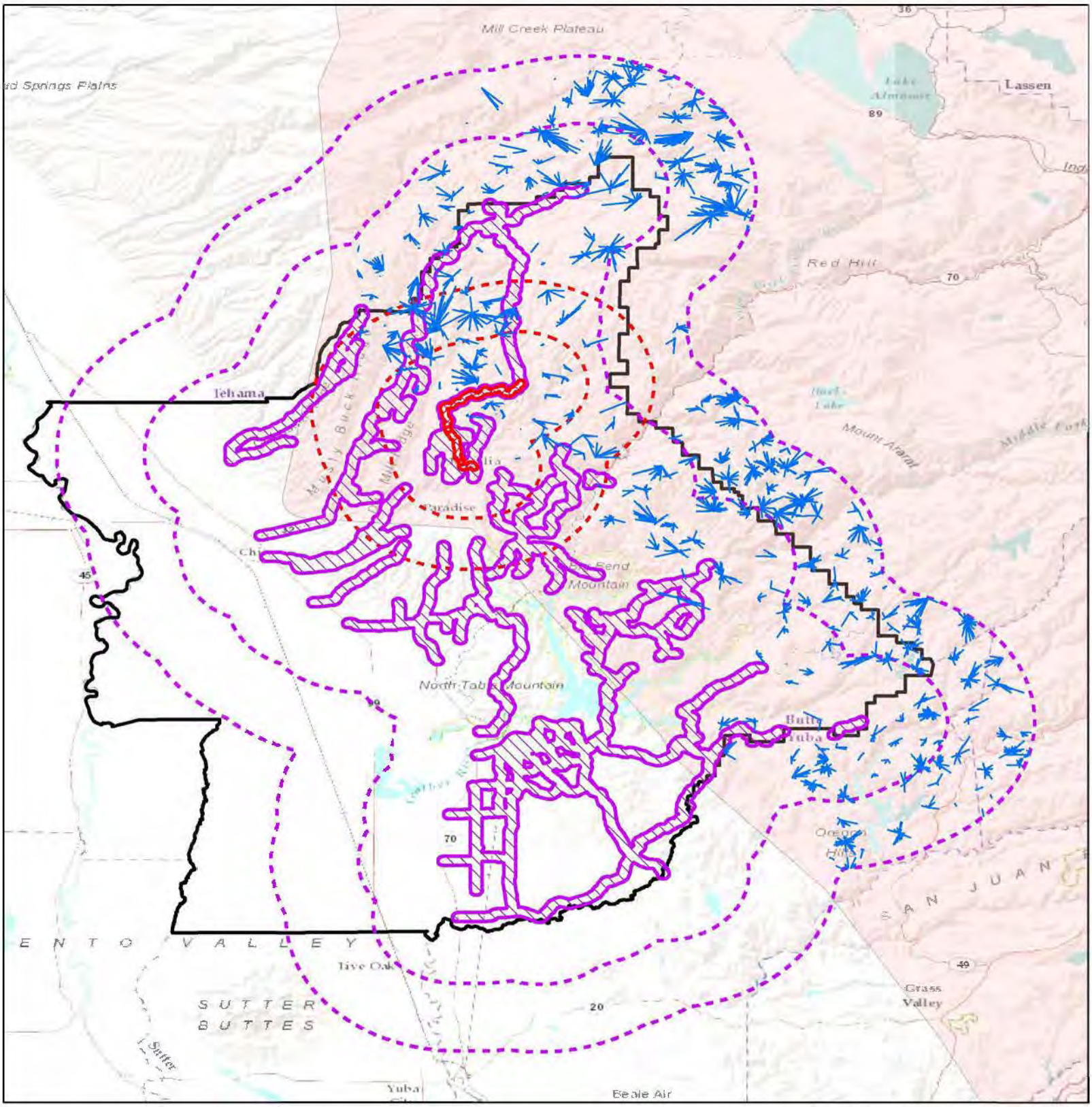


Figure 7.
CSO Activity Centers

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

California Spotted Owl

- Activity Centers
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

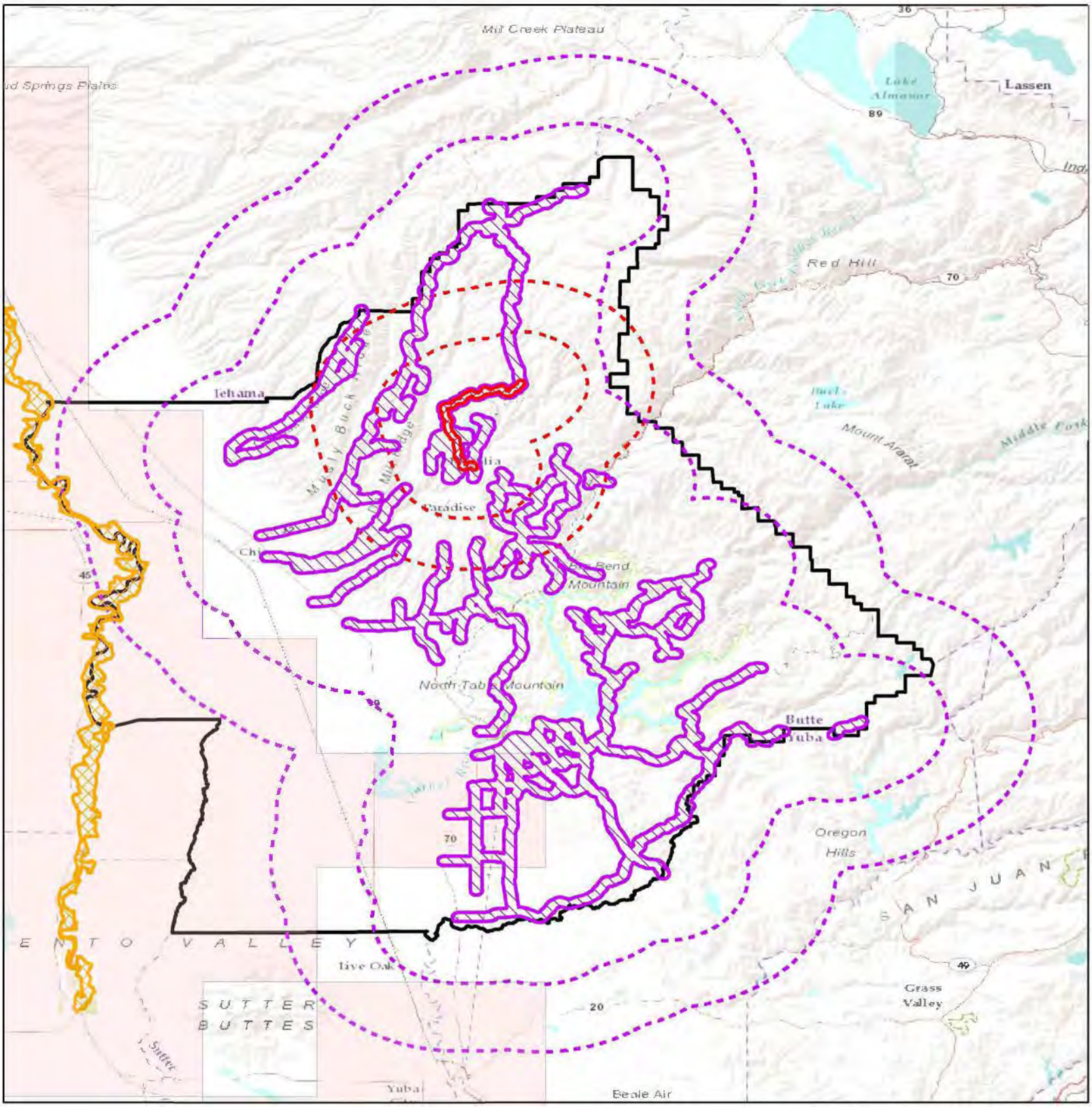


Figure 8.
wYBC

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Yellow-billed Cuckoo

- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

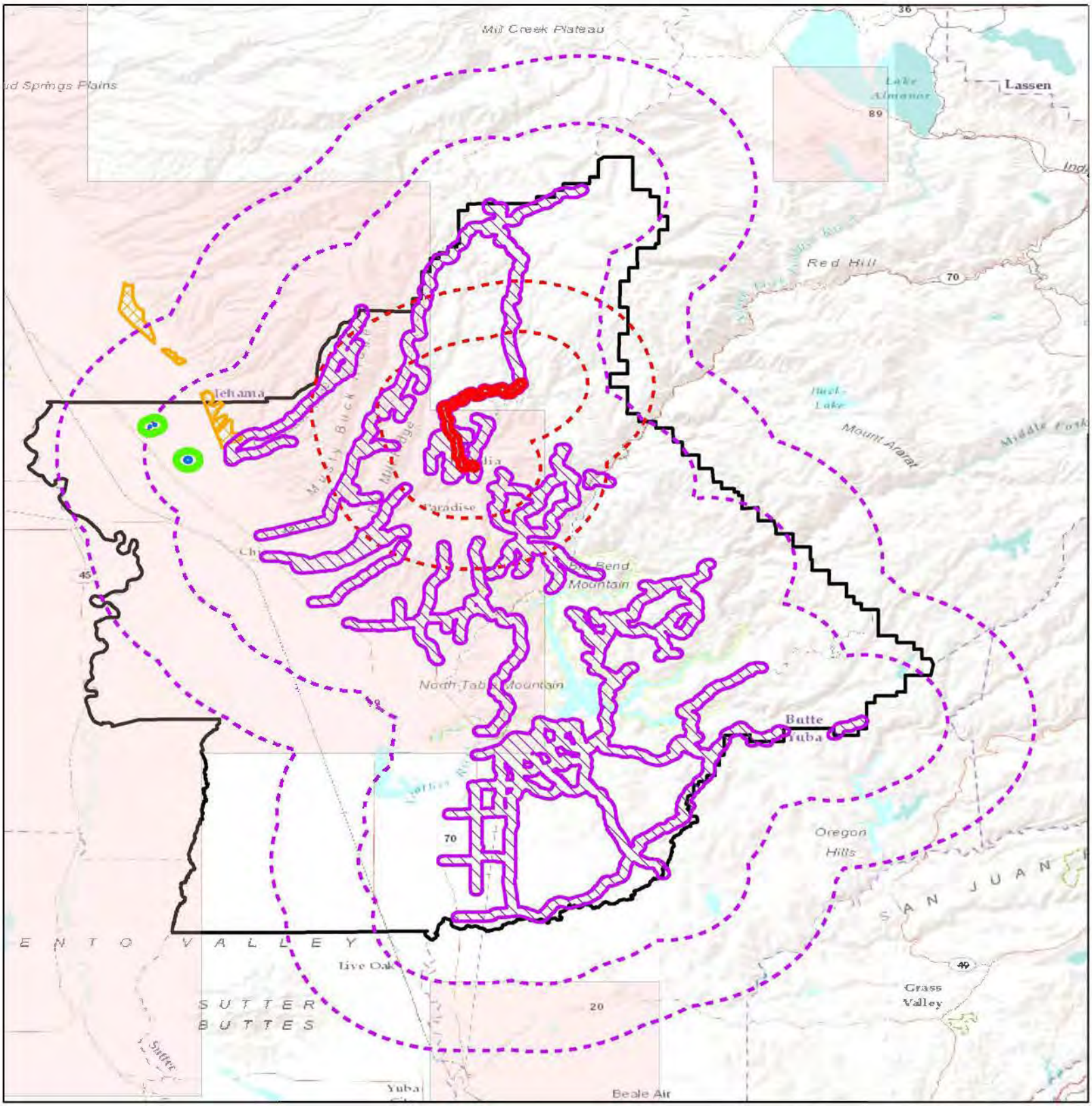


Figure 9.
CFS

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Conservancy Fairy Shrimp

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

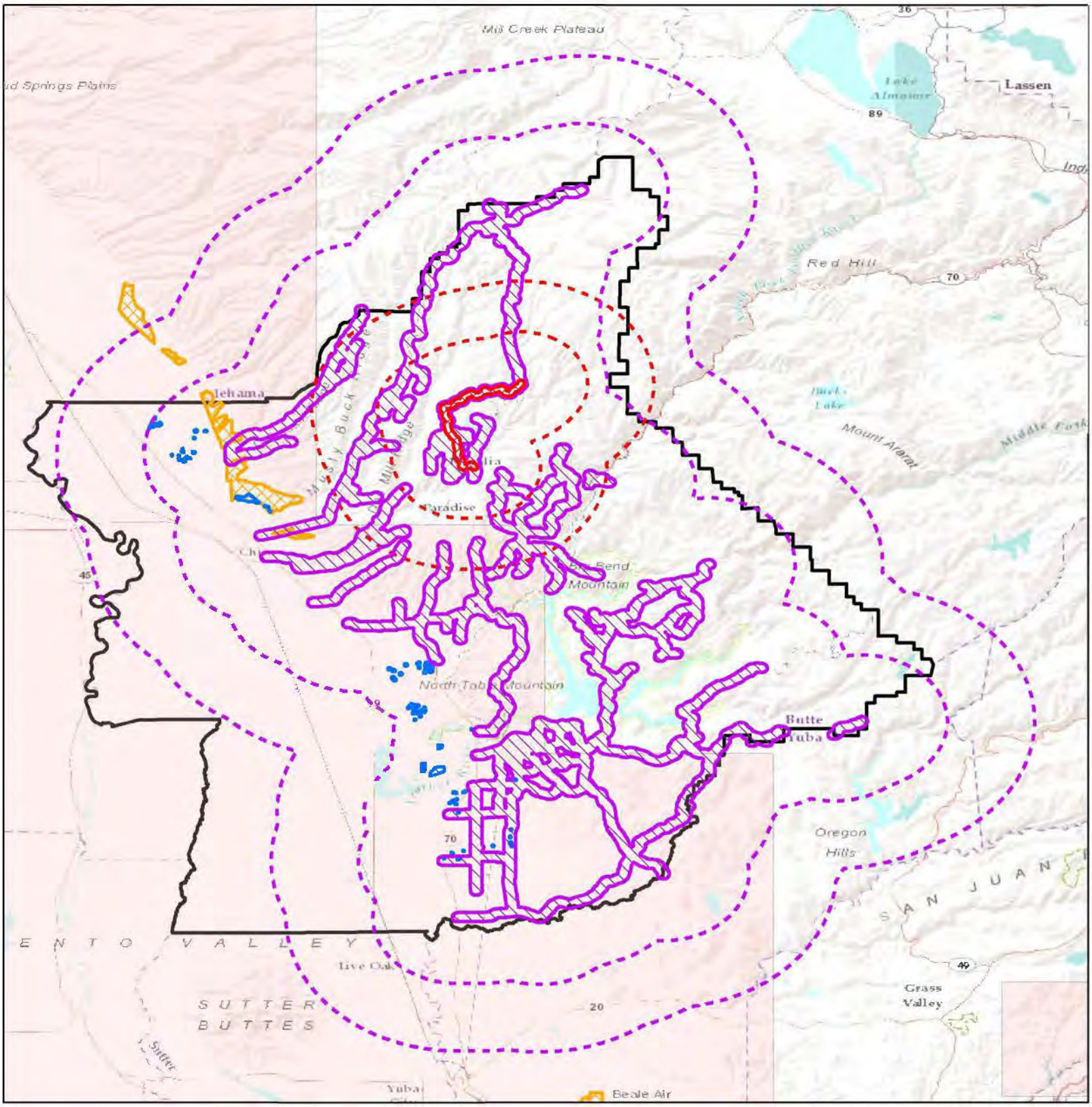


Figure 10.
VPFS

Legend

- ROW Action Area
- BCFSC_Action_Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Vernal Pool Fairy Shrimp

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

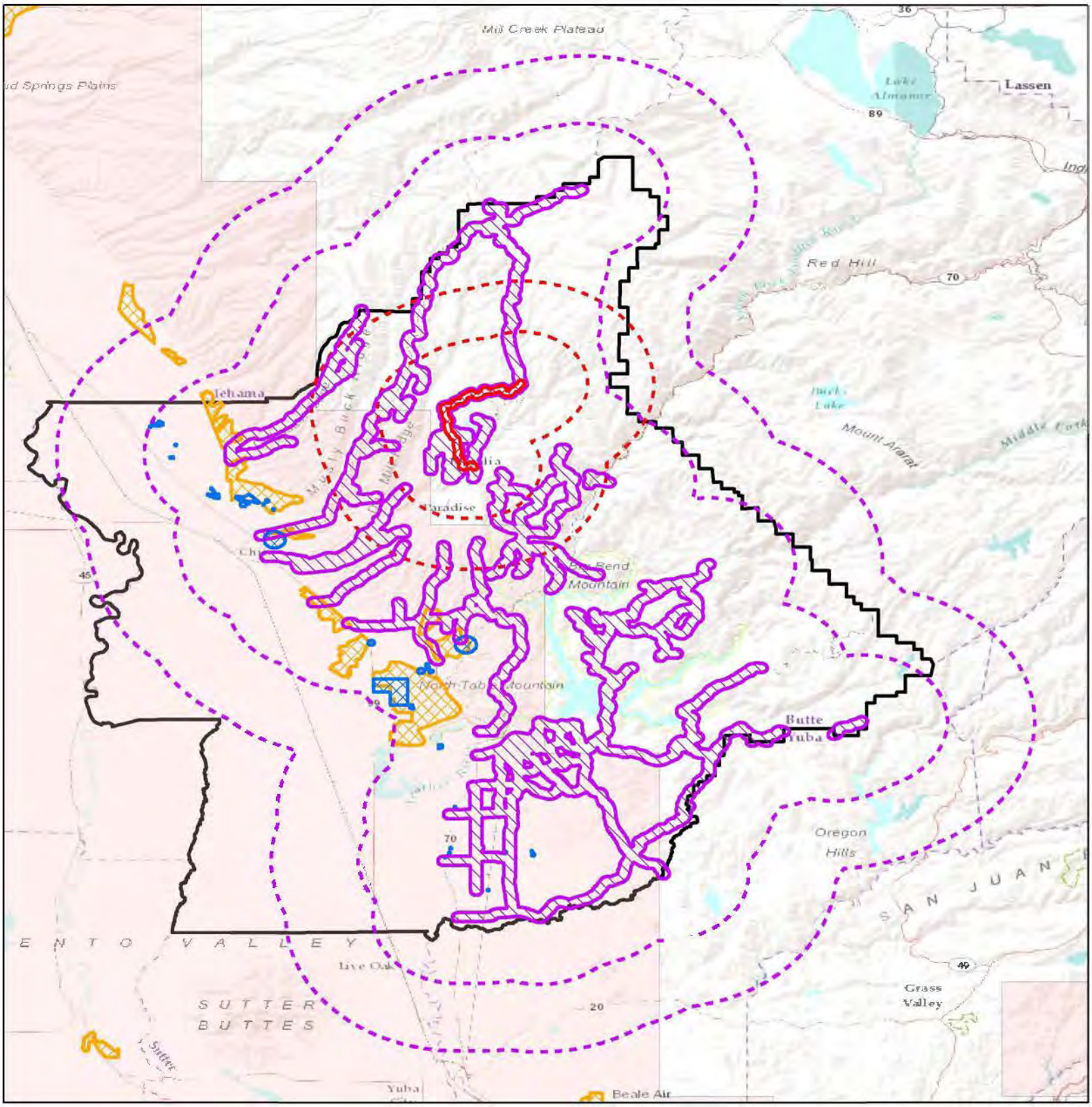


Figure 11.
VPTS

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Vernal Pool Tadpole Shrimp

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

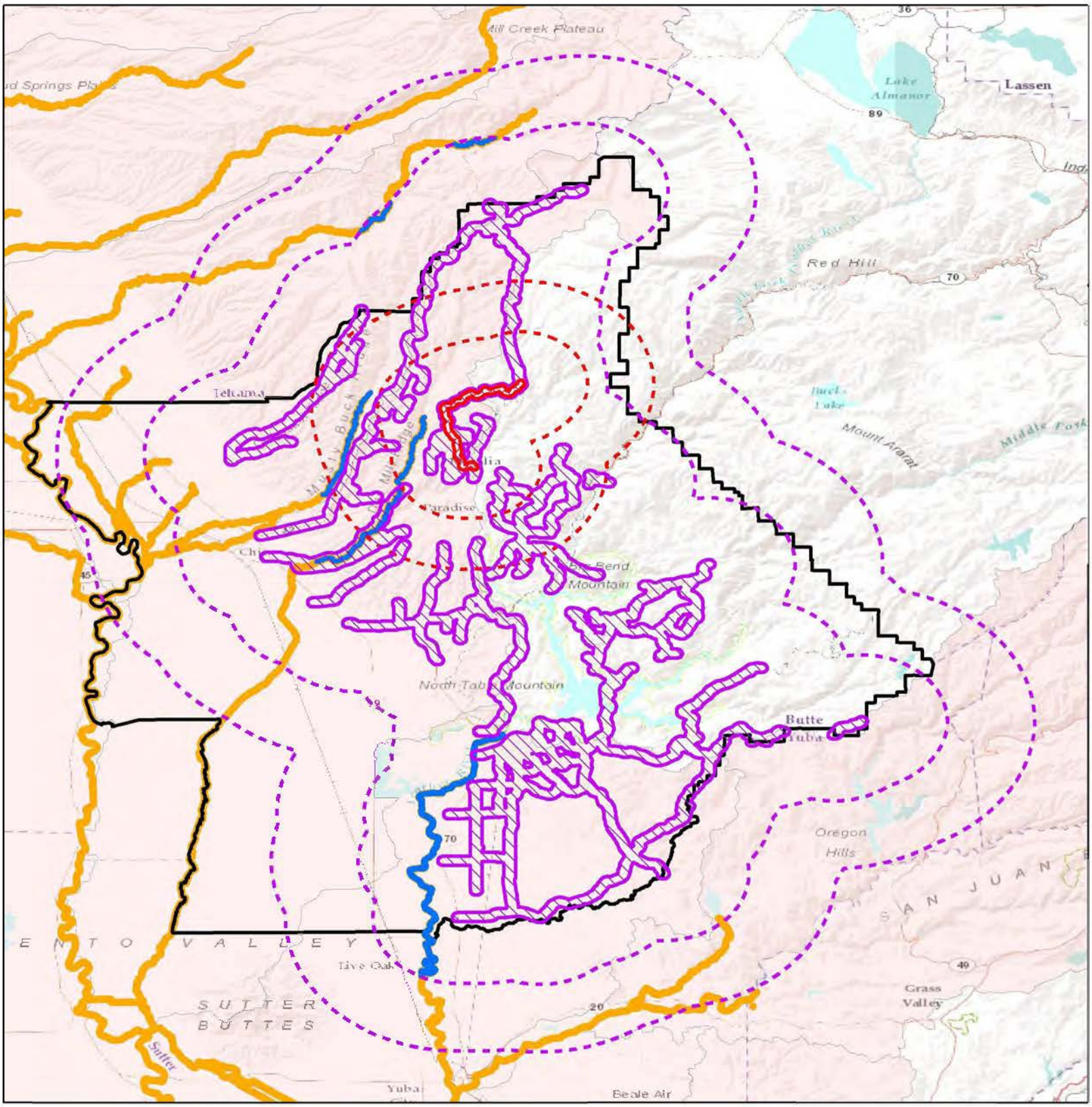


Figure 12.
CVSR Chinook Salmon

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

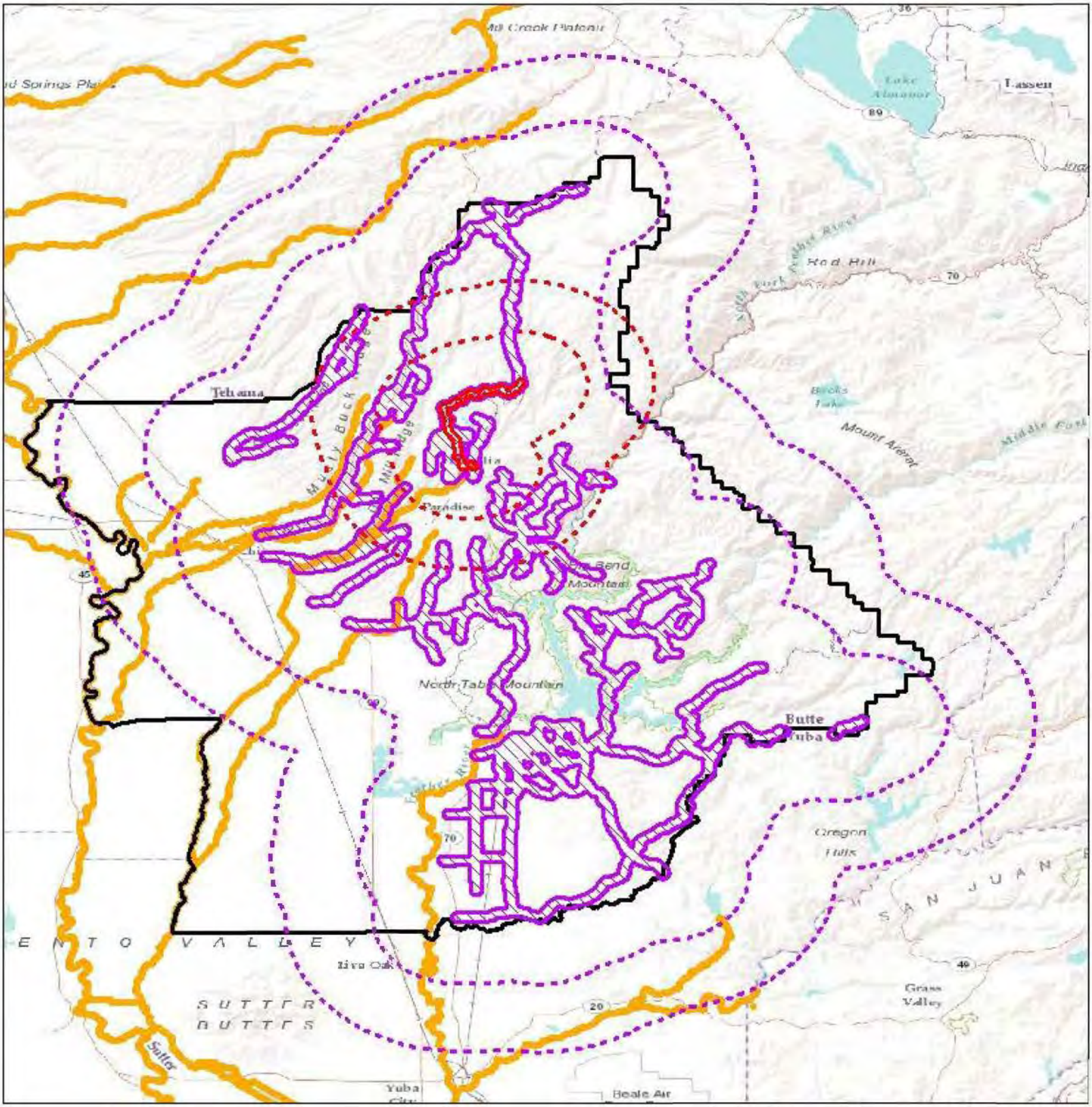


Figure 13.
CCV Steelhead

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

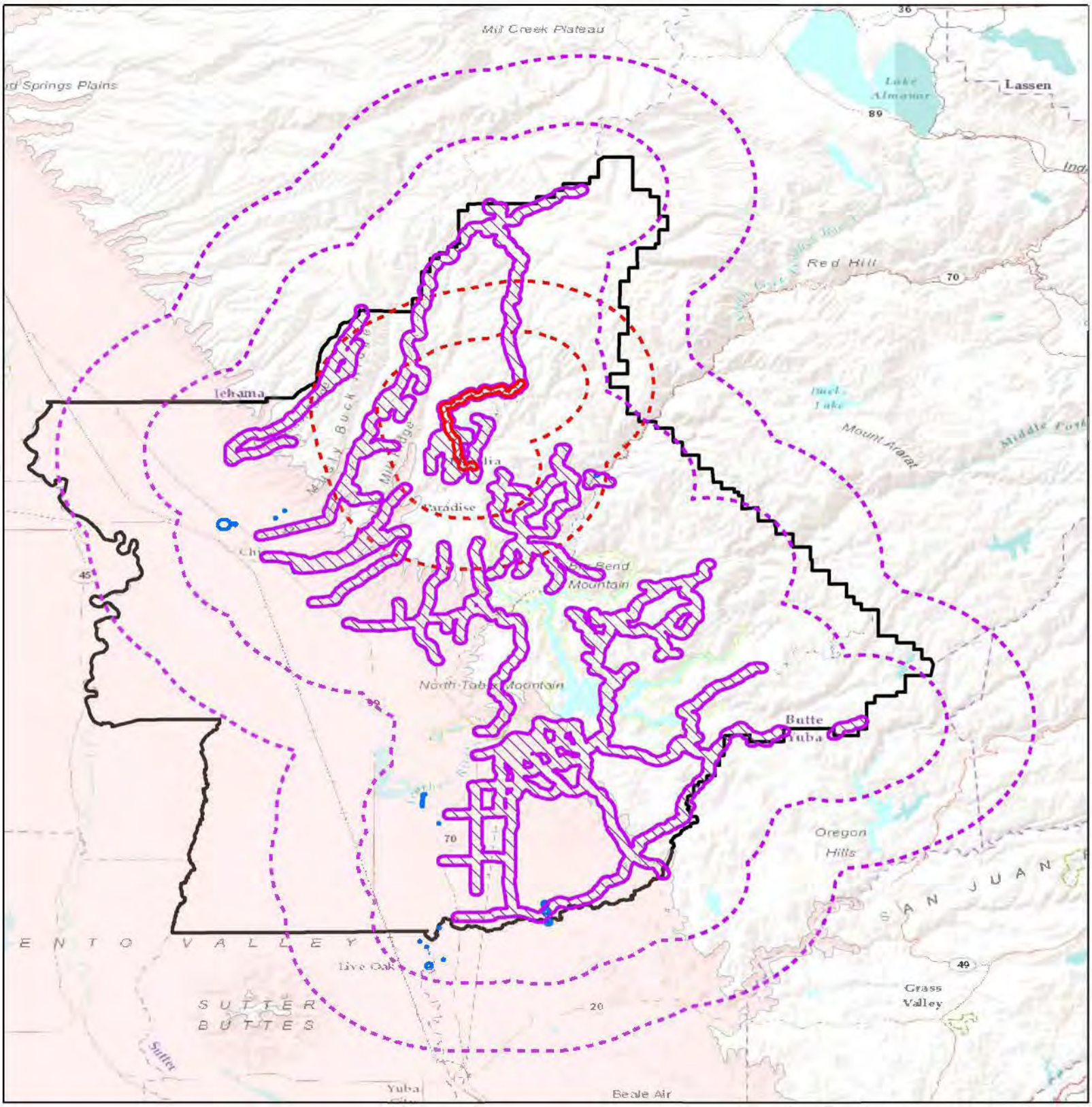


Figure 14.
VELB

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Valley Elderberry Longhorn Beetle

- CNDDB Occurrence
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

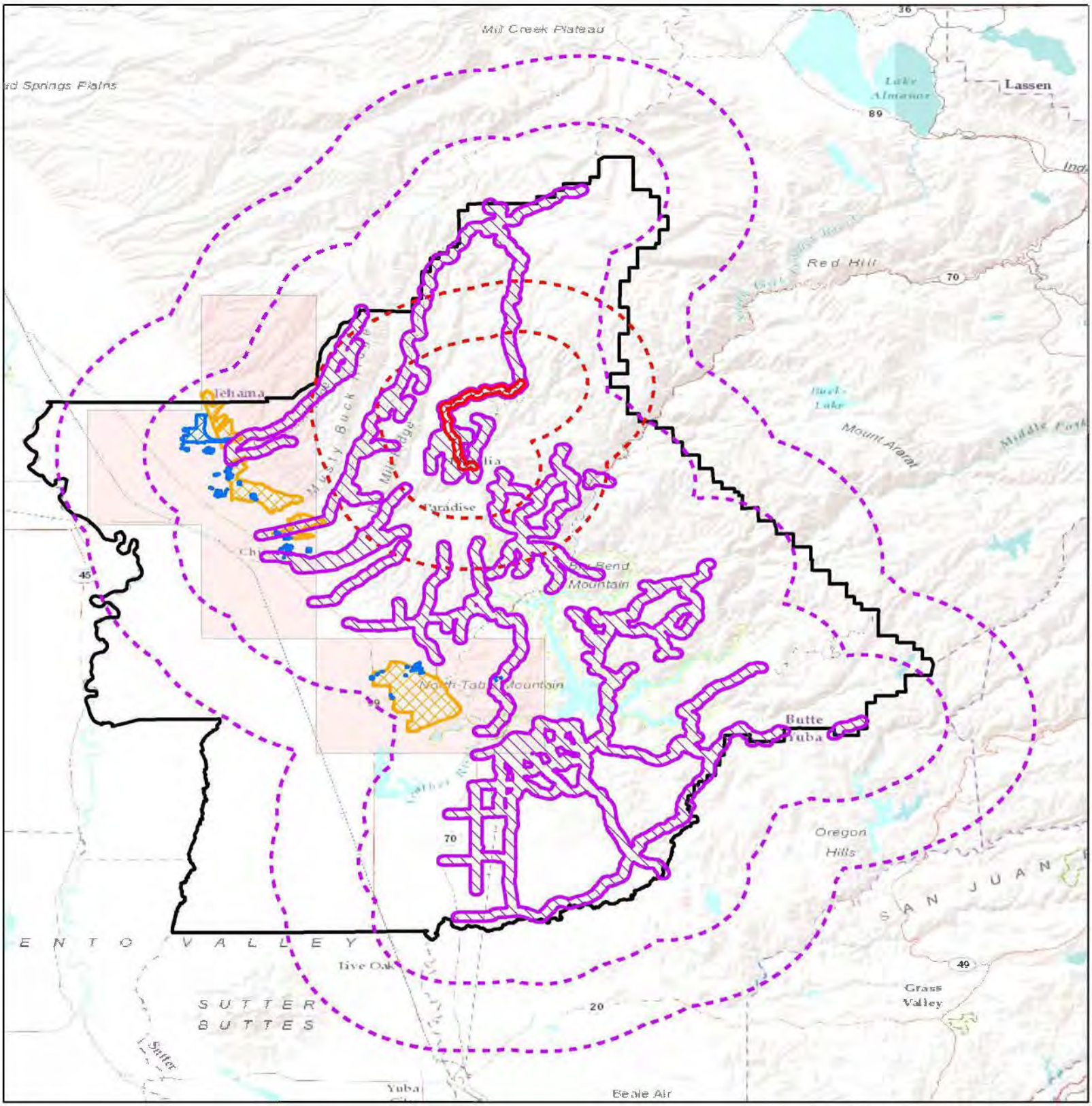


Figure 15.
BCM

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Butte County Meadowfoam

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

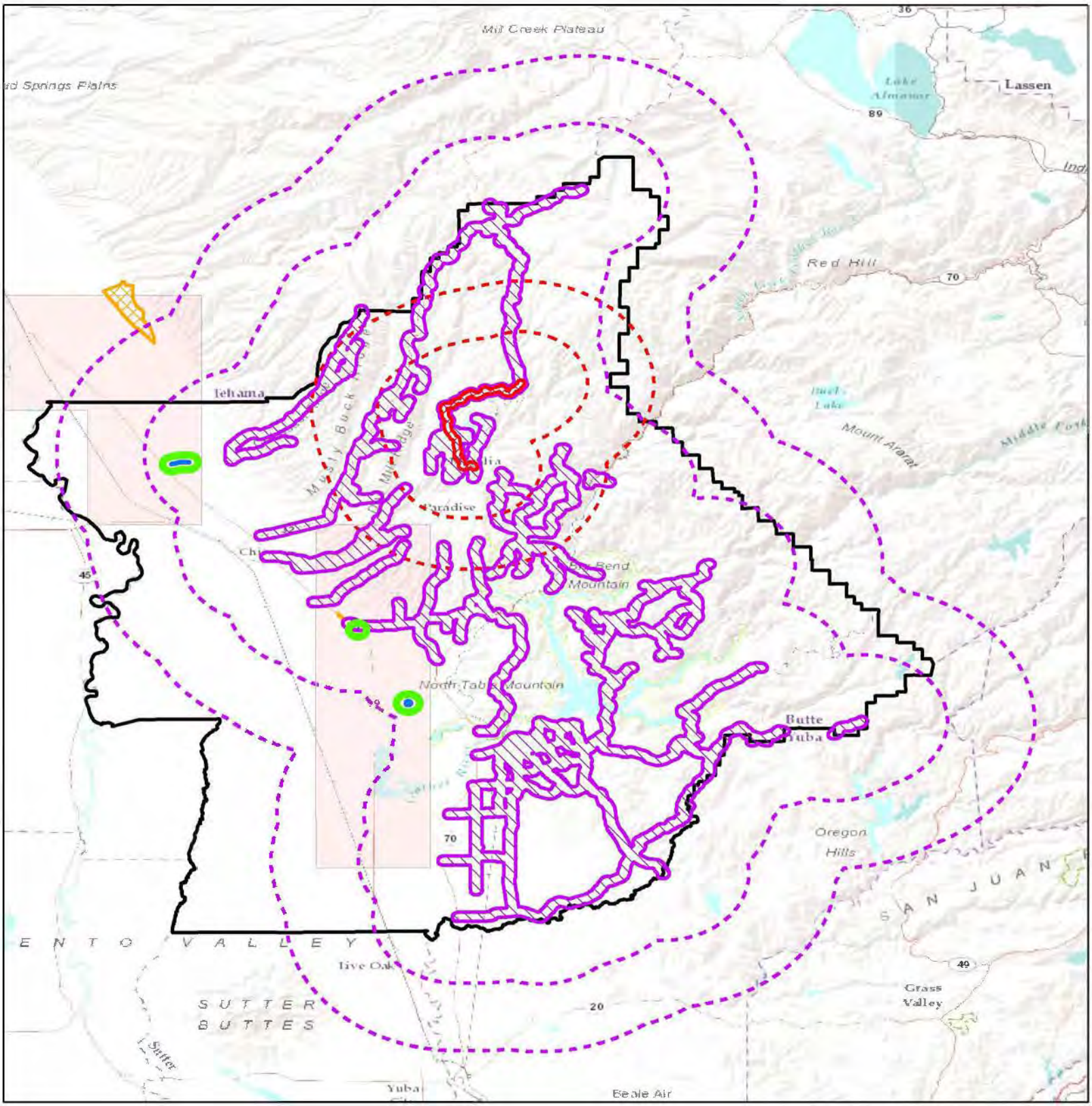


Figure 16.
GT

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Greene's Tuctoria

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

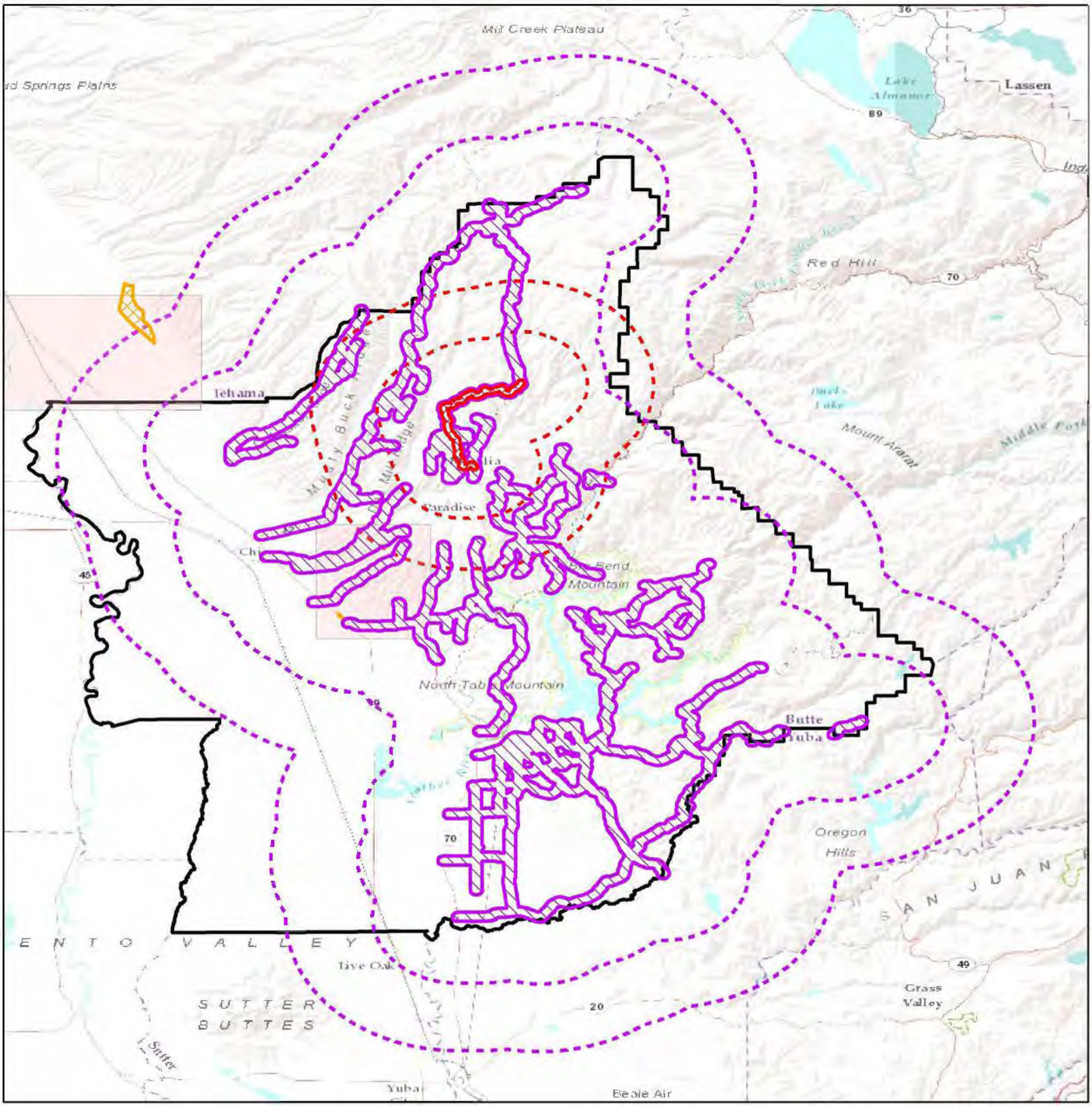


Figure 17. HOG

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Hairy Orcutt Grass

- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

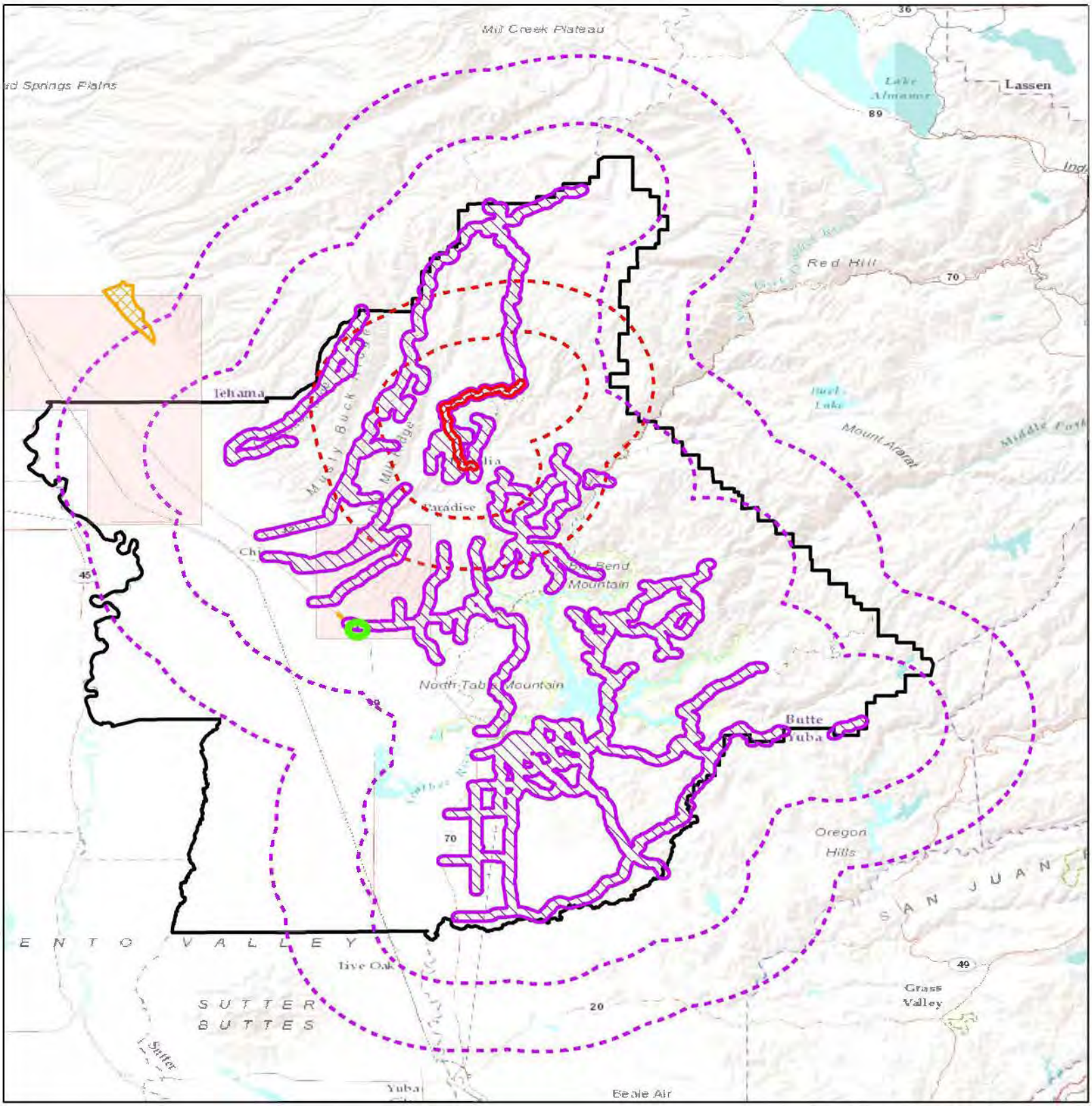


Figure 18.
HS

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

Hoover's Spurge

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

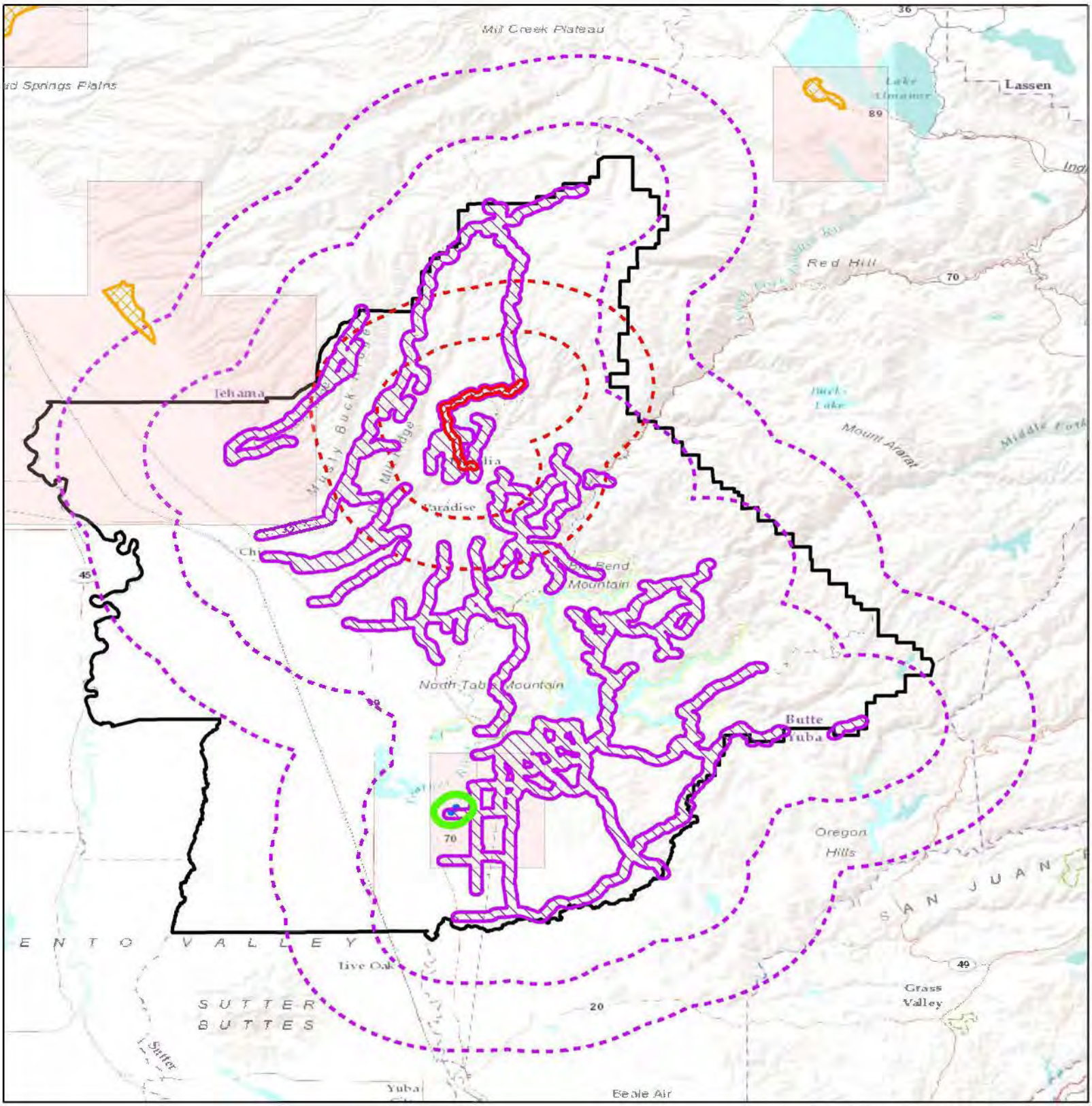


Figure 19.
SLOG

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Slender Orcutt Grass

- CNDDB Occurrence
- Critical Habitat
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

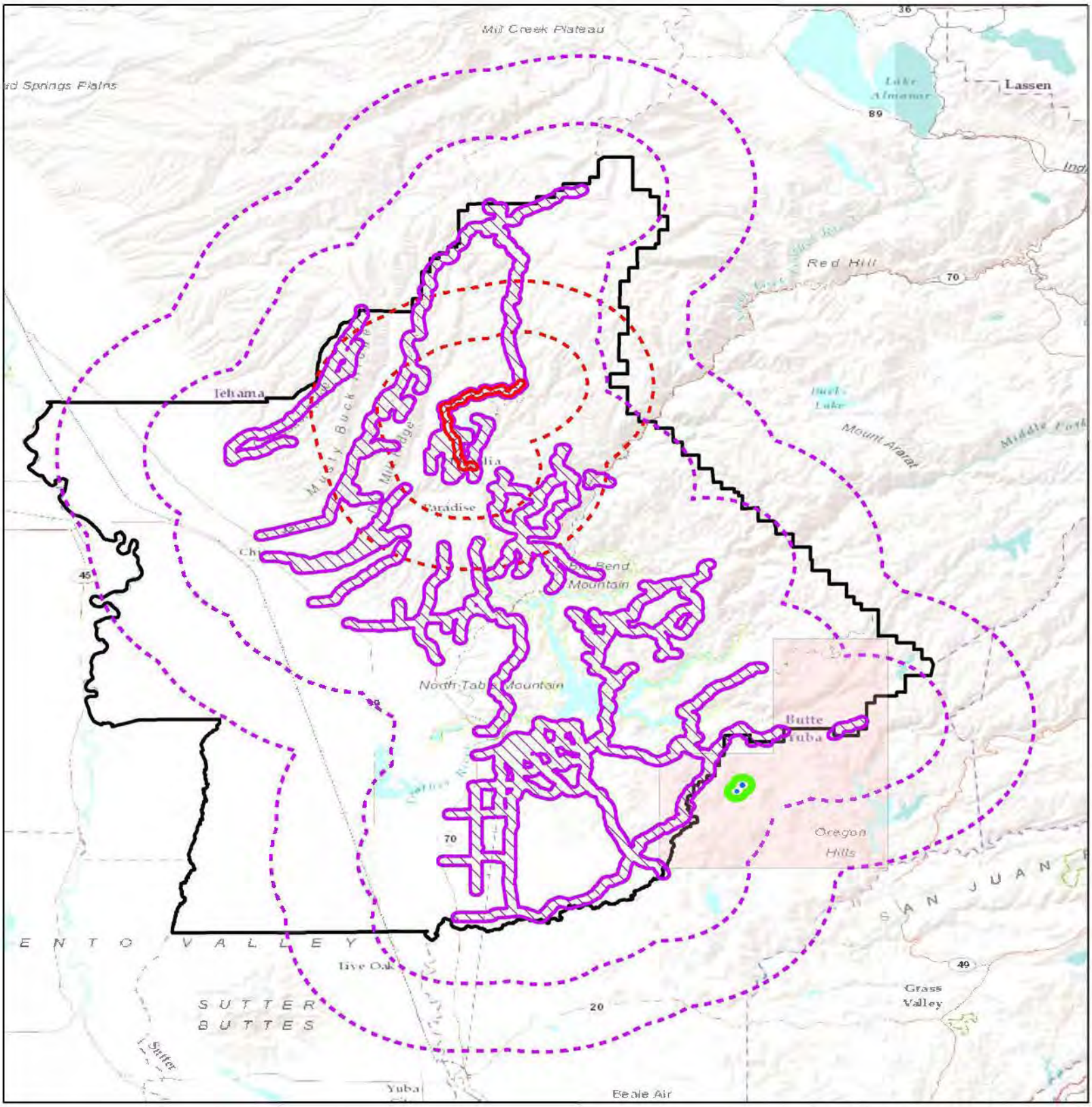


Figure 20.
LB

Legend

- ROW Action Area
- BCFSC Action Area
- ROW Project 5 and 10 Mile Buffers
- BCFS Project 5 and 10 Mile Buffers
- Butte County

0 5 10 20 Miles

N W E S

Layne's Butterweed

- CNDDB Occurrence
- Range

Butte County Defensible Space & Vegetation Management
HMGP 4407-020-144 & HMGP 4407-497-056

Appendix C

Agency and Tribal Correspondence

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846
SFWO_mail@fws.gov

In Reply Refer to:
2023-0059961-S7-001

November 9, 2023
Sent Electronically

Lisa Holm
Acting Regional Environmental Officer, Region IX
FEMA Region IX-U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, California 94607-4052
lisa.holm@fema.dhs.gov

Subject: Informal Consultation and Conference on the Butte County—Defensible Space and Vegetation Management Project, Butte County, California (FEMA HMGP-4407-020-144 /4407-497-056)

Dear Lisa Holm:

This letter is in response to the Federal Emergency Management Agency's (FEMA) September 19, 2023, request for initiation of informal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Butte County—Defensible Space and Vegetation Management Project (proposed project) in Butte County, California. At issue are the proposed project's effects on the federally threatened Hoover's spurge (*Chamaesyce hooveri*), Layne's butterweed (*Senecio layneae*), slender Orcutt grass (*Orcuttia tenuis*), vernal pool fairy shrimp (*Branchinecta lynchi*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle), California red-legged frog (*Rana draytonii*) (red-legged frog), North Feather Distinct Population Segment of the foothill yellow-legged frog (*Rana boylii*), and Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*) (cuckoo); the federally endangered Butte County meadowfoam (*Limnanthes flocci* spp. *californica*), Greene's tuctoria (*Tuctoria greenei*), hairy Orcutt grass (*Orcuttia pilosa*), Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool tadpole shrimp (*Lepidurus packardi*) (tadpole shrimp), and Sierra Nevada yellow-legged frog (*Rana sierrae*); and the proposed as federally threatened Sierra Nevada Distinct Population Segment of the California Spotted Owl (*Strix occidentalis occidentalis*) (spotted owl). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action on which we are consulting is FEMA providing funding through their Hazard Mitigation Grant Program authorized by section 404 of the Stafford Act to Butte County and the Butte County Fire Safe Council (subapplicants) in order to undertake the proposed project. Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and

requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect but is not likely to adversely affect the species at issue.

In considering your request, we based our evaluation on the following:

1) Your September 19, 2023, email requesting initiation of informal consultation and conference;

2) The August 2023 *Biological Assessment— Butte County—Defensible Space and Vegetation Management, Butte County, California HMGP-4407-020-144 and 4407-497-056* (biological assessment), including appendices, prepared by CDM Smith (consultant);

3) Technical assistance provided via email and meeting communication between the Service and FEMA; and

4) Other information available to the Service.

The proposed project contains two activities with the potential to affect federally listed species: the County Road Hazardous Fuels Reduction Right-of-Way Project (road project) and the Defensible Space and Hazardous Fuels Reduction Program (defensible space project).

County Road Hazardous Fuels Reduction Right-of-Way Project

The road project will be conducted within Butte County's existing right-of-way along 12 miles of Skyway, from Magalia to Stirling City. Hazardous fuels reduction will involve removing trees, shrubs, ladder fuels, and other vegetation to reduce the fuel load within the right-of-way. Treatment will focus on removing dead, downed, diseased, dying, or decadent trees, trees in dense stands, and chaparral species. The project will include removing brush, pruning trees, removing and chipping understory trees, and thinning overstory trees. Trees less than 8-inches diameter at breast height and brush will be removed. All trees to be removed will be cut as close to ground level as possible, with the stumps and root balls left in place. Some trees will be retained to create a shaded fuel break. In addition, larger diameter trees and chaparral plants with unique structural features on the outer edges of the right-of-way will be retained to support and promote wildlife species and habitat. Trees that are retained will be limbed and pruned by hand to remove low branches and ladder fuels. Vegetation will be cut up to 35 feet from the paved edges of the roads. Masticators mounted on excavators will be used to masticate brush and small trees. The tracked masticators will have rubber pads to reduce damage to roadways and native surfaces. Chips and cut vegetation will be scattered and left in place, piled and burned in accordance with local air quality standards and burn permit requirements, or hauled to a permitted facility. Larger logs will be lifted out of the right-of-way onto trucks to be hauled off-site for disposal.

All work and staging will be within the county right-of-way. Staging will occur along the roadway and in previously disturbed areas. Equipment used will include excavators, tracked mulching tractors, brush rake tractors, tracked and conventional chippers, and hand-held tools. Work will be conducted by one crew consisting of traffic controllers, equipment operators, and a crew supervisor. Project work is expected to span two seasons, with each season starting in early April and ending in late June, with 60 working days in each season.

Follow-up maintenance is not part of the proposed federal grant funding; however, it is a requirement of the grant award. Butte County will maintain the fuel reduction zone in the

Skyway right-of-way, which will include the application of herbicides along the roadway using booms attached to a vehicle. Only U.S. Environmental Protection Agency-approved herbicides will be used to control the growth of undesired vegetation, and all herbicide applications will follow the product label application instructions and best management practices for the use of herbicides.

Defensible Space and Hazardous Fuels Reduction Program

The Butte County Fire Safe Council proposes to reduce the risk of wildfire-related hazards by assisting interested property owners with creating defensible space and reducing hazardous fuels at eligible homesites that are both within the wildland urban interface and within 500 feet of a main evacuation route (Figure 1). The project will create defensible space at up to 1,400 homesites and conduct fire-hazard tree removal at 1,200 homesites. Homesites may have both activities conducted on the property. These activities are expected to take approximately 15 months in total. Treatment at each of the potential work sites will take 1 to 2 days to complete.

On properties where landowners have expressed an interest in having defensible space creation completed for them, work crews will be dispatched to complete the work. Landscaping and vegetation within 100 feet of existing structures will be modified to be consistent with state defensible space standards. Defensible space will be created by thinning shrubs and trees 10-inches diameter at breast height or less to achieve at least a 20-foot spacing between the tree crowns. Work crews will hand-cut vegetation with hand tools and either stack brush at designated areas, chip material, or cut it into smaller pieces and scatter it on-site. Masticators or other heavy equipment will not be used. Staging will occur along existing access roads or other previously disturbed areas, and there will be no need for grading or leveling.

On properties where landowners have expressed an interest in having fire-hazard trees removed, trees 10-inches diameter at breast height and larger will be assessed to determine whether the trees are a fire hazard. All trees slated for removal will be on private property within 300 feet of a homesite and within 500 feet of an evacuation route. Tree species to be removed will include California black oak, incense cedar, ponderosa pine, grey pine, and Douglas fir and will vary in size from 10-inches to 60-inches diameter at breast height. Hazard tree removal will be limited to burned trees assessed to be dead or dying. Trees will be removed at the base with tree root balls left intact. Equipment used will include excavators, grapple trucks, tracked shovel or log loaders, skidders, skid steers, bumper pull chippers, and whole-tree drum chippers. After trees have been felled, they will be dragged to a staging area and trucked to a permitted facility for disposal. Staging will occur along existing access roads or other previously disturbed areas, and there will be no need for grading or leveling.

Best Management Practices

Staff working on the proposed project will receive training on stormwater pollution prevention and best management practices. A project-specific Stormwater Pollution Prevention Plan will be prepared and implemented. Work will be conducted in compliance with the California Forest Practice Rules (California Department of Forestry and Fire Protection 2022). No vegetation clearing will be performed near streams, and a 25-foot to 150-foot setback will be maintained from all streams, depending on stream class and slope. All stream classes that provided suitable habitat for any listed species will have a setback of at least 100 feet.

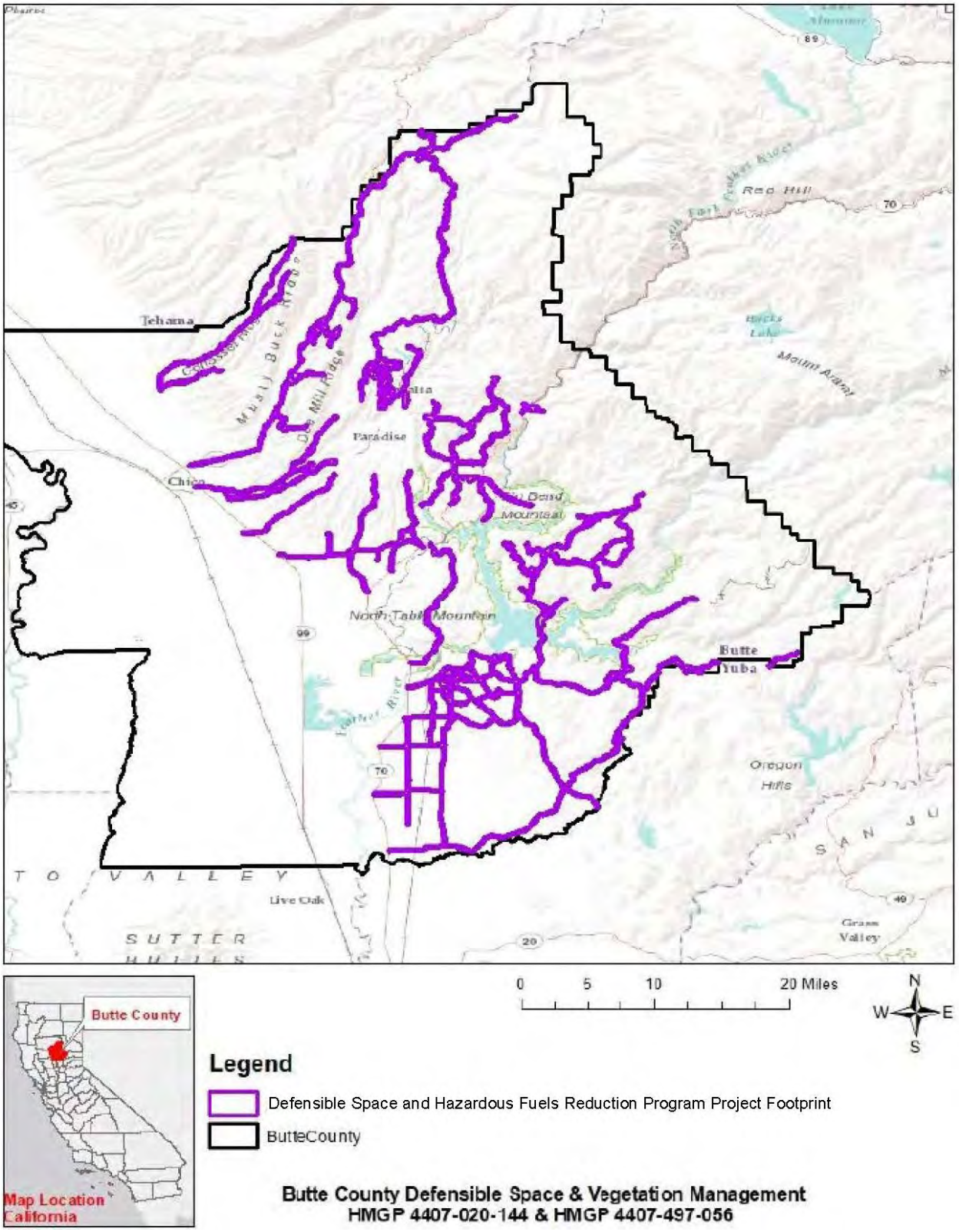


Figure 1. Proposed project area for the Defensible Space and Hazardous Fuels Reduction Program. The County Road Hazardous Fuels Reduction Right-of-Way Project occurs within a portion of the same area. Figure from biological assessment.

Conservation Measures

The following is a summary of the proposed conservation measures, as outlined in the biological assessment, to avoid and minimize effects to the species at issue. The conservation measures described below are considered part of the proposed project evaluated by the Service in this letter.

These measures have been adapted from those in the March 27, 2019, *Programmatic Formal Section 7 Consultation on Federal Emergency Management Agency's Disaster, Mitigation, and Preparedness Programs within the Sacramento Fish and Wildlife Office's Jurisdiction, California* (Service File Number 08ESMF00-2018-F-3331-1) and retain the numbering from that document for consistency. Measures from that document that are not applicable to the proposed project have been excluded; therefore, the numbering is not always sequential. We also note below if a measure from that document has been modified for this proposed project.

General Conservation Measures

GEN AMM-1 Erosion and Sedimentation Prevention Measures (modified) – Ground disturbance from project activities is expected to be minimal; however, because many project sites are near aquatic features, the subapplicants will prepare Erosion Control Plans, as needed. The Erosion Control Plans will detail the erosion and sedimentation prevention measures required. As part of this plan, the subapplicants will ensure that sediment control devices are installed and maintained correctly. For example, sediment will be removed from engineering controls once the sediment has reached one-third of the exposed height of the control. The devices will be inspected frequently (i.e., daily or weekly, as necessary) to ensure that they are functioning properly; controls will be immediately repaired or replaced, or additional controls will be installed as necessary. Sediment that is captured in these controls may be disposed of on-site in an appropriate, safe, approved area or off site at an approved disposal site.

Any areas of soil disturbance, including temporarily disturbed areas, will be seeded with a regionally appropriate erosion control seed mixture. On soil slopes with an angle greater than 30 percent, erosion control blankets will be installed, or a suitable and approved binding agent will be applied. Runoff will be diverted away from steep or denuded slopes.

Where habitat for covered species is identified within or adjacent to the work areas, all disturbed soils at the site will undergo erosion control treatment before the rainy season starts and after construction is terminated. Treatment may include temporary seeding and sterile straw mulch.

GEN AMM-3 Dust Control Measures – To reduce dust, all traffic associated with the subapplicants' construction activities will be restricted to a speed limit of 15 miles per hour when traveling off highways or county roads.

Stockpiles of material that are susceptible to wind-blown dispersal will be covered with plastic sheeting or other suitable material to prevent movement of the material.

During construction, water or other binding materials will be applied to disturbed ground that may become windborne. If binding agents are used, all manufacturers' recommendations for use will be followed.

GEN AMM-4 Spill Control Planning – The subapplicants will prepare Spill Prevention and Pollution Control Plans to address the storage of hazardous materials and emergency cleanup of any hazardous material and will be available on-site, if applicable. The plans will incorporate hazardous waste, stormwater, and other emergency planning requirements.

GEN AMM-5 Spill Prevention and Pollution Control Measures (modified) – The subapplicants will exercise every reasonable precaution to protect federally listed species and their habitats from pollution from fuels, oils, lubricants, or other harmful materials. Project-related pollutants will be collected and transported to an authorized disposal area, as appropriate, per all federal, state, and local laws and regulations.

GEN AMM-6 Equipment Inspection and Maintenance (modified) – Well-maintained equipment will be used to perform the work and, except in the case of a failure or breakdown, equipment maintenance will be performed off-site. Equipment will be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material will be cleaned up, and the cleaning materials will be collected and properly disposed. Fueling will be conducted in accordance with the procedures to be developed in the Spill Prevention and Pollution Control Plans.

Vehicles and equipment that are used during the course of a project will be fueled and serviced in a "safe" area (i.e., outside of sensitive habitats) and at least 300 feet from any vernal pool, vernal pool grassland, wetland or waterbody in a manner that will not affect covered species or their habitats. Spills, leaks, and other problems of a similar nature will be resolved immediately to prevent unnecessary effects on covered species and their habitats. A plan for the emergency cleanup of any spills of fuels or other material will be available on-site, and adequate materials for spill cleanup will be maintained on-site.

GEN AMM-7 Fueling Activities (modified) – Vehicles and equipment that are used during project implementation will be fueled and serviced in a manner that will not affect covered species or their habitats. Machinery and equipment used during work will be serviced, fueled, and maintained on uplands to prevent contamination of surface waters. Fueling equipment and vehicles will be kept more than 300 feet away from any vernal pool, vernal pool grassland, wetland or waterbody.

GEN AMM-8 Equipment Staging – No staging of equipment, tools, buildings, trailers, or restroom facilities will occur in a floodplain during flood season, even if staging is only temporary.

GEN AMM-9 Materials Storage and Disposal (modified) – All hazardous materials will be stored in upland areas in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted provided the same containment precautions are taken as described for hazardous materials storage. All construction materials, waste, debris, sediment, rubbish, trash, and fencing will be removed from the site when project construction is complete and transported to an authorized disposal area, as appropriate, in compliance with applicable federal, state, and local laws and regulations. No disposal of construction materials or debris will occur in a floodplain. No storage of construction materials or debris will occur in a floodplain during flood season.

GEN AMM-10 Fire Prevention – With the exception of vegetation-clearing equipment, no vehicles or construction equipment will be operated in areas of tall, dry vegetation.

The subapplicants will develop and implement fire prevention and suppression plans for all maintenance and repair activities that require welding or that otherwise pose a risk for starting a wildfire.

GEN AMM-11 Waste Management (modified) – The work area will be kept free of loose trash. All food waste will be removed from the work areas on a daily basis.

GEN AMM-13 Work Area Designation to Minimize Disturbance (modified) – The subapplicants will reduce, to the maximum extent practicable, the amount of disturbance at a site to the absolute minimum necessary to accomplish the project.

Project planning must consider not only the effects of the action itself, but also ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project.

GEN AMM-14 Access Routes and Staging Areas – When working on stream banks or floodplains, disturbance to existing grades and vegetation will be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities will avoid and limit disturbance to sensitive habitats (e.g., stream banks, stream channel, and riparian habitat) as much as possible. When possible, existing ingress or egress points will be used and/or work will be performed from the top of the stream banks. After completion of the work, the contours of the streambed, vegetation, and stream flows will be returned to their preconstruction condition or better.

All staging and material storage areas, including the locations where equipment and vehicles are parked overnight, will be placed outside of the flood zone of a watercourse, above areas of tidal inundation, away from riparian habitat or wetland habitat, and away from any other sensitive habitats. When possible, staging and access areas will be situated in areas that are previously disturbed, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation.

GEN AMM-15 Environmental Awareness Training – All construction personnel will be given environmental awareness training by the project's environmental inspector or biological monitor before the start of construction. The training will familiarize all construction personnel with the covered species that may occur on-site, their habitats, general provisions and protections afforded by the Act, measures to be implemented to protect these species, and the project boundaries. This training will be provided within 3 days of the arrival of any new worker.

As part of the environmental awareness training, construction personnel will be notified that dogs or any other pets under control of construction personnel will not be allowed within the construction area, and that firearms will not be permitted in the construction area, unless carried by authorized security personnel or law enforcement.

GEN AMM-16 Biological Monitor – If a project involves activities that may result in encounters with listed species, a Service-approved biologist will be present on-site for all construction activities that occur within 100 feet of habitat for those species. If a Service-approved biologist is needed, the subapplicants will submit the biologist's qualifications to the Service for approval 30 days prior to project construction. The Service-approved biologist will ensure that all applicable conservation measures are implemented during project construction.

The Service-approved biologist will also ensure that all vehicles entering the site are free of debris that may harbor organisms that could be introduced to the site, such as vegetation or mud from other aquatic areas. The Service-approved biologist will also ensure that turbidity, sedimentation, and the release of materials such as dust or construction runoff are controlled, and that spill control measures are enacted properly.

The Service-approved biologist will oversee construction activities to ensure that no listed species and/or their habitats are adversely affected. The Service-approved biologist will have the authority to stop any work activities that may result in potential adverse effects to listed species and/or their habitats.

Approval requests from the subapplicants for Service-approved biologists must include, at a minimum:

a. Relevant education
b. Relevant training concerning the listed species for which approval is requested, including species identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized by the Service for such activities
c. Summary of field experience conducting requested activities (to include project/research information)
d. Summary of biological opinions under which they were authorized to work with the requested species and at what level (such as construction monitoring versus handling), including the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project
e. List of Federal Recovery Permits [10(a)1(A)] held or under which they are authorized to work with the species requested (to include the permit number, authorized activities, and name of permit holder)
f. Any relevant professional references with contact information

GEN AMM-17 Daily Work Hours (modified) – Construction activities that may affect suitable habitat for listed species will be limited to daylight hours during weekdays, leaving the nighttime and weekend periods for the species.

GEN AMM-18 Entrapment Prevention – To prevent entrapment of listed species, all vertically sided holes or trenches will be covered at the end of the workday or have escape ramps built into the walls of the excavation. If pipes are stored on-site or in associated staging areas, they will be capped when not in use.

Construction materials that have the potential to entangle or entrap wildlife will be properly contained so that wildlife cannot interact with the materials.

Species-specific Conservation Measures

Prior to initiating defensible space creation and/or hazardous fuels removal activities at any work area, a qualified biologist with experience in the ecology and identification of listed species and their habitats will conduct an initial reconnaissance of the work area. The reconnaissance will consist of walking the work area and visually assessing surrounding areas to identify suitable habitat for listed species. Species-specific conservation measures will be implemented for those species with the potential to occur within or near the proposed project area as determined by the biologist based on the presence of suitable habitat.

If a listed species is identified on-site, crews will immediately stop work within 50 feet of the individual and inform the construction supervisor and the Service-approved biologist. Work will not continue within 50 feet of the individual until it has traveled off the project site of its own volition.

Layne's Butterweed

LB 1. Pre-Activity Surveys – Prior to initiating fuel reduction activities in portions of the action area with potential to support Layne's butterweed, a biologist with experience in the identification of Layne's butterweed will conduct a botanical survey during the species' blooming period (April through June) to identify areas occupied by the species. The boundary of areas occupied by Layne's butterweed will be fenced and/or flagged by the surveyor.

LB 2. Avoidance Area – If areas occupied by Layne's butterweed are found within the action area, a 50-foot exclusion zone will be placed around the area during activities that could result in disturbance. The exclusion zone will be clearly identified using staking, flagging, or fencing. Fuel reduction activities will avoid exclusion zones to ensure that the area is not encroached upon and that potential impacts are avoided.

LB 3. Invasive Plant Species Prevention – To minimize the introduction of invasive plant species, equipment, vehicles, and personnel will be checked to ensure that they are free of contamination (i.e., weed seeds, organic matter, or other contaminants) before entering work sites near areas occupied by Layne's butterweed.

Vernal Pool Plants and Invertebrates

VP Plant 1. Pre-Activity Surveys (new) – Prior to initiating fuel reduction activities in portions of the action area with potential to support Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, and/or slender Orcutt grass, a biologist with experience in the identification of these species will conduct a botanical survey during the species' blooming period to identify areas occupied by the species. The boundary of areas occupied by Butte County meadowfoam, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, and/or slender Orcutt grass will be fenced and/or flagged by the surveyor and no work will occur within 300 feet of suitable habitat.

VPBR 9 and VP Plant 10. Dust Control – Dust control measures will be implemented to prevent the transport of soil from exposed surfaces to vernal pool, swale, and seasonal wetland habitat. Sprinkling with water will not be done in excess to minimize the potential for non-stormwater discharge.

VPBR 11 and VP Plant 12. Vehicle Maintenance – Vehicles will be inspected daily for fluid leaks before leaving a staging area.

VPBR 12 and VP Plant 13. Site Restrictions – All activities within 300 feet of vernal pool and swale habitat will be avoided.

Valley Elderberry Longhorn Beetle

VELB 1. Pre-Project Survey/Flagging (new) – For project homesites where suitable beetle habitat is identified during the initial site reconnaissance, not more than 24 hours prior to the date of vegetation clearing or treatment, an arborist, biologist, or other experienced individuals

trained to identify all life stages of elderberry plants will conduct a survey at the project homesite. The survey will consist of walking the project limits and observing all vegetation within the project site to determine presence of elderberry shrubs. The identified elderberry shrubs will be flagged for retention and avoidance.

VELB 2. Avoidance Area (modified) – Activities that may damage or kill an elderberry shrub would implement an avoidance area of at least 20 feet from the drip-line, depending on the type of activity.

VELB 3. Work Education – A Service-approved biologist will provide training for all contractors, work crews, and any on-site personnel on the status of the beetle, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance.

VELB 4. Biological Monitor – A Service-approved biologist will monitor the work area at project-appropriate intervals to ensure that all conservation measures are implemented. The amount and duration of monitoring will depend upon the project specifics and the contractor will discuss it with the Service-approved biologist.

VELB 6. Trimming (modified) – To avoid adverse effects on the beetle, trimming of elderberry shrubs will occur between November and February and will avoid the removal of any branches or stems that are greater than or equal to 1 inch in diameter.

California Red-legged Frog

CRLF 1. Biological Monitor – A Service-approved biologist(s) will be on-site during all activities that may result in encounters with red-legged frogs.

CRLF 3. Rain Event Limitation – No construction activities will occur during rain events or within 24 hours following a rain event. Prior to construction activities resuming, a Service-approved biologist will inspect the action area and all equipment/materials for the presence of red-legged frogs. Construction may continue 24 hours after the rain ceases if no precipitation is forecasted within 24 hours. If rain exceeds 0.5 inch during a 24-hour period, work will cease until no further rain is forecasted.

CRLF 5. Daily Clearance Surveys – The Service-approved biologist will conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction activities are occurring that may result in encounters with red-legged frogs.

CRLF 9. Encounters with Species – Each encounter with a red-legged frog will be treated on a case-by-case basis. If any life stage of the red-legged frog is found and if these individuals may be killed or injured by work activities, the following will apply:

- If a red-legged frog is detected within the action area, work activities within 50 feet of the individual that may result in the harm, injury, or death to the animal will cease immediately and the on-site project manager and Service-approved biologist will be notified. Based on the professional judgment of the Service-approved biologist, if project activities can be conducted without harming or injuring the red-legged frog, it may be left at the location of discovery and monitored by the Service-approved biologist. All project

personnel will be notified of the finding and at no time will work occur within 50 feet of a red-legged frog without a Service-approved biologist present.
- Contact with the individual frog will be avoided and it will be allowed to move out of the hazardous situation of its own volition.

CRLF 11. Environmental Awareness Training – Prior to the start of construction, a Service-approved biologist with experience in the ecology of the red-legged frog as well as the identification of all their life stages will conduct a training program for all construction personnel including contractors and subcontractors. Interpretation for non-English speaking workers will be provided. All construction personnel will be provided a fact sheet conveying this information. The same instruction will be provided to any new workers before they are authorized to perform project work. The training will include, at a minimum:

- Habitat within the action area
- An explanation of the species status and protection under state and federal laws
- The conservation measures to be implemented to reduce take of this species
- Communication and work stoppage procedures in case a listed species is observed within the action area
- An explanation of the importance of the environmentally sensitive areas

CRLF 12. Disease Prevention and Decontamination Procedures – To ensure that diseases are not conveyed by the Service-approved biologist between work areas, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (see Enclosure) will be followed at all times.

CRLF 16. Accidental Spills, Stormwater Pollution Prevention Plan, Erosion Control, and Best Management Practices (modified) – Prior to the onset of work, a plan will be in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and instructed in the appropriate measures to implement if a spill occurs. Stormwater pollution prevention plans and erosion control best management practices will be developed and applied to minimize any wind- or water-related erosion. These provisions will be included in construction contracts for measures to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. At a minimum, protective measures will include:

- No discharge of pollutants from vehicle and equipment cleaning is allowed into any storm drains or watercourses.
- Vehicle and equipment fueling and maintenance operations must be conducted at least 300 feet away from aquatic or riparian habitats and not in a location where a spill may drain directly toward aquatic habitat, except at established commercial gas stations or at an established vehicle maintenance facility. The monitor will implement the spill response plan to ensure contamination of aquatic or riparian habitat does not occur during such operations.
- Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.
- Dust control will be implemented and may include the use of water trucks and nontoxic tackifiers (binding agents) to control dust in excavation and fill areas, rocking temporary access road entrances and exits, and covering of temporary stockpiles when weather conditions require.

- Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, etc. along toes of slopes or along edges of designated staging areas, and erosion control netting (e.g., jute or coir) as appropriate on sloped areas.
- Permanent erosion control measures such as biofiltration strips and swales to receive stormwater discharges from paved roads or other impervious surfaces will be incorporated to the maximum extent practicable.

CRLF 19. Limitation on Insecticide/Herbicide Use (modified) – Insecticides or herbicides will not be applied at the project site where there is the potential for these chemical agents to enter creeks, streams, or waterbodies that contain habitat for the red-legged frog. Herbicides will not be applied to uplands between October 16 to April 30.

CRLF-21 Invasive Non-Native Plant Species Prevention: The Service-approved biologist will ensure that the spread or introduction of invasive non-native plant species, via introduction by arriving vehicles, equipment, imported gravel, and other materials, will be avoided to the maximum extent possible. When practicable, invasive non-native plants in the action area will be removed and properly disposed of in a manner that will not promote their spread. Invasive non-native plant species include those identified in the California Invasive Plant Council's Inventory Database (https://www.cal-ipc.org/plants/inventory/).

<u>Foothill Yellow-legged Frog and Sierra Nevada Yellow-legged Frog</u>

FYLF-SNYF 1. Biological Monitor – A Service-approved biologist(s) will be on-site during all activities that may result in encounters with foothill yellow-legged frogs or Sierra Nevada yellow-legged frogs.

FYLF-SNYF 2. High-Water Limitation – No construction activities will occur during high-water events or within 24 hours following a high-water event to avoid times when foothill yellow-legged frogs are likely to move away from waterways to seek refuge from peak flows. Prior to construction activities resuming, a Service-approved biologist will inspect the action area and all equipment/materials for the presence of foothill yellow-legged frogs and Sierra Nevada yellow-legged frogs. Construction may continue 24 hours after high-water conditions cease. The Service may approve modifications to this timing on a case-by-case basis.

FYLF-SNYF 3. Preconstruction Survey – Not more than 24 hours prior to the date of initial ground disturbance and vegetation clearing, a Service-approved biologist with experience in the identification of all life stages of the foothill yellow-legged frog and Sierra Nevada yellow-legged frog will conduct a preconstruction survey at the project site. The survey will consist of walking the project limits and observing the project site to determine possible presence of the species. The Service-approved biologist will investigate all areas that could be used by foothill yellow-legged frogs or Sierra Nevada yellow-legged frogs for feeding, breeding, sheltering, movement, and other essential behaviors, such as small woody debris, refuse, and leaf litter.

FYLF-SNYF 4. Daily Clearance Surveys – A Service-approved biologist will conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction activities are occurring that may result in encounters with foothill yellow-legged frogs or Sierra Nevada yellow-legged frogs.

FYLF-SNYF 6. Encounters with Species – Each encounter with a foothill yellow-legged frog or Sierra Nevada yellow-legged frog will be treated on a case-by-case basis. If any life stage of a

foothill yellow-legged frog or Sierra Nevada yellow-legged frog is found, the following will apply:

- If a foothill yellow-legged frog or Sierra Nevada yellow-legged frog is detected in the action area, work activities within 50 feet of the individual that may result in the harm, injury, or death to the animal will cease immediately and the on-site project manager and Service-approved biologist will be notified. Based on the professional judgment of the Service-approved biologist, if project activities can be conducted without harming or injuring the foothill yellow-legged frog or Sierra Nevada yellow-legged frog, it may be left at the location of discovery and monitored by the Service-approved biologist. All project personnel will be notified of the finding and at no time will work occur within 50 feet of a foothill yellow-legged frog or Sierra Nevada yellow-legged frog without a Service-approved biologist present.
- Contact with the individual frog will be avoided and it will be allowed to move out of the hazardous situation of its own volition.

FYLF-SNYF 7. Environmental Awareness Training – Prior to the start of construction, a Service-approved biologist with experience in the ecology of the foothill yellow-legged frog and Sierra Nevada yellow-legged frog and the identification of all their life stages will conduct a training program for all construction personnel, including contractors and subcontractors. Interpretation for non-English-speaking workers will be provided. All construction personnel will be provided a fact sheet conveying this information. The same instruction will be provided to any new workers before they are authorized to perform project work. The training will include, at a minimum, the following topics:

- Habitat within the action area
- Explanation of the species status and protection under state and federal laws
- Conservation measures to be implemented to avoid take of this species
- Communication and work stoppage procedures in case a listed species is observed within the action area
- Explanation of the importance of the environmentally sensitive areas

FYLF-SNYF 8. Disease Prevention and Decontamination Procedures – To ensure that diseases are not conveyed between work areas, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (see Enclosure) will be followed at all times.

FYLF-SNYF 9. Accidental Spills, Stormwater Pollution Prevention Plan, Erosion Control, and Best Management Practices (modified) – Prior to the onset of work, a plan will be in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and instructed in the appropriate measures to implement if a spill occurs. Stormwater pollution prevention plans and erosion control best management practices will be developed and applied to minimize any wind- or water-related erosion. These provisions will be included in construction contracts for measures to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. At a minimum, protective measures will include the following:

- No discharge of pollutants from vehicle and equipment cleaning is allowed into any storm drains or watercourses.

- Vehicle and equipment fueling as well as maintenance operations must be conducted at least 300 feet away from aquatic or riparian habitats and not in a location where a spill may drain directly toward aquatic habitat, except at established commercial gas stations or at an established vehicle maintenance facility. The monitor will implement the spill response plan to ensure contamination of aquatic or riparian habitat does not occur during such operations.
- Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.
- Dust control will be implemented and may include using water trucks and nontoxic tackifiers (binding agents) to control dust in excavation and fill areas, applying rock to temporary access road entrances and exits, and covering of temporary stockpiles when weather conditions require.

FYLF-SNYF 11. Limitation on Herbicide Use (modified) – To minimize the potential for herbicides to reach aquatic habitats that may support foothill yellow-legged frogs or Sierra Nevada yellow-legged frogs via runoff or drift, herbicides will not be applied within 200 feet of aquatic features occurring within the action area.

FYLF-SNYF 12. Seasonal Work Restriction – Project activities will be confined to times outside of the foothill yellow-legged frog breeding season (May through July) to avoid the period when individuals are likely to be travelling to and from breeding sites.

FYLF-SNYF 13. Invasive Non-Native Plant Species Prevention: The Service-approved biologist will ensure that the spread or introduction of invasive non-native plant species, via introduction by arriving vehicles, equipment, imported gravel, and other materials, will be avoided to the maximum extent possible. When practicable, invasive non-native plants in the action area will be removed and properly disposed of in a manner that will not promote their spread. Invasive non-native plant species include those identified in the California Invasive Plant Council's Inventory Database (https://www.cal-ipc.org/plants/inventory/).

<u>California Spotted Owl</u>

CSO-1. Work Restrictions in Previously Unsurveyed Landscape – Spotted owl occupancy in the action area will be presumed based on the presence of nesting, roosting, and foraging habitat:

a) Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 mile of nesting, roosting, and foraging habitat between March 1 and August 15.
    i. This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle back-up alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.
b) Do not conduct any habitat modification activities within 0.25 mile of nesting, roosting, and foraging habitat between March 1 and August 15.
    i. Modification includes cutting and removal of large trees, down logs or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling and removal may occur as long as the noise levels described above are not exceeded during March 1–August 15.

CSO-2. Noise Abatement – Equipment must be in good working order with standard noise abatement devices attached.

CSO-3. Habitat Avoidance – Within all nesting, roosting, and foraging habitat:

a) Unless they are a confirmed safety or fire hazard, avoid removing or damaging trees or snags with potential nesting platforms and associated screen trees. These include trees with large flattened tops; large broken-topped trees; trees with decadence such as large cavities, mistletoe broom structures, cat faces, or large limbs; or large snags with these similar characteristics.
b) Avoid removing large (20-inches diameter at breast height or larger) snags, unless they are a confirmed safety or fire hazard.

Yellow-billed Cuckoo

YBC 1. Habitat Assessment and Seasonal Avoidance – A habitat assessment will be conducted by a Service-approved biologist within portions of the action area where cuckoos may occur to determine whether suitable habitat (including foraging, nesting, and dispersal) for the cuckoo is present. If suitable habitat for the cuckoo is present within the action area, project activities will be scheduled to avoid the cuckoo breeding season (June 1 to August 31).

YBC 2. Biological Monitor – A Service-approved biologist(s) will be on-site during all activities that may result in encounters with cuckoos.

YBC 3. Native Vegetation Remains in Place – For projects where non-native plant species are targeted for removal within suitable habitat for cuckoo, live native vegetation will be left in place to the maximum extent practical; willows (*Salix* spp.) and cottonwoods (*Populus* spp.) with a diameter at breast height of 6 inches or greater may be trimmed but will be left in place where possible.

Layne's Butterweed

Layne's butterweed occurs on gabbro and serpentine soils in chapparal vegetation communities in the central Sierra Nevada foothills (Service 2019a). A small portion of the defensible space project area is within the mapped range of the Layne's butterweed. There are no known occurrences of Layne's butterweed in Butte County; however, there are two occurrences in the California Natural Diversity Database (Diversity Database) in Yuba County, approximately 2 miles from the defensible space project area (Service 2019a, Diversity Database 2023). The road project is outside of the range of Layne's butterweed. Within the portion of the defensible space project area that overlaps the range of the Layne's butterweed, habitats with gabbro or serpentine soils are fragmented. Therefore, it is unlikely that Layne's butterweed occurs within the defensible space project area. In addition, the subapplicants have proposed conservation measures, including pre-activity surveys and avoidance buffers, that are expected to prevent any adverse effects to Layne's butterweed.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect Layne's butterweed. The proposed project reached the "may affect" level for Layne's butterweed, and the subsequent requirement for a biological assessment because a portion of the proposed project is within the range of Layne's butterweed, habitat for Layne's butterweed is present within the proposed project area, and Layne's butterweed is known to occur in the area. However, due to the low likelihood that Layne's butterweed will be present in the proposed project area and considering the proposed conservation measures, the Service believes that any potential adverse effects to

Layne's butterweed from the proposed project are extremely unlikely to occur, and thus are considered discountable for the purposes of this consultation.

Butte County Meadowfoam, Greene's Tuctoria, Hairy Orcutt Grass, Hoover's Spurge, Slender Orcutt Grass, Conservancy Fairy Shrimp, Vernal Pool Fairy Shrimp, and Vernal Pool Tadpole Shrimp (Vernal Pool Plants and Invertebrates)

Vernal pool habitat is present at the lower elevation end of the defensible space project area, with nearby occurrences in the Diversity Database of Butte County meadowfoam, Greene's tuctoria, Hoover's spurge, slender Orcutt grass, Conservancy fairy shrimp, vernal pool fairy shrimp, and tadpole shrimp (Diversity Database 2023). Therefore, any of these species are expected to be present in portions of the defensible space project area that contain vernal pool habitat. However, the subapplicants have proposed conservation measures, including pre-activity surveys and avoidance buffers, that are expected to prevent any adverse effects to vernal pool species. The road project area does not contain any vernal pool habitat and is outside of the range of these species.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the vernal pool species. The proposed project reached the "may affect" level for the vernal pool species, and the subsequent requirement for a biological assessment because a portion of the proposed project is within the ranges of all of the species, vernal pool habitat is found within portions of the proposed project area, and the species are known to occur in the area. However, due to the proposed conservation measures, the Service believes that any potential adverse effects to the vernal pool species from the proposed project are extremely unlikely to occur, and thus are considered discountable for the purposes of this consultation.

Valley Elderberry Longhorn Beetle

The beetle occurs in the Central Valley from Shasta County to Madera County below 500 feet in elevation and is dependent on the presence of elderberry (*Sambucus* spp.), its obligate larval host plant (Service 2019b). Occupancy of elderberry by the beetle is generally low but tends to be highest in riparian communities. The road project is outside of the range of the beetle. There are 16 known occurrences of the beetle in the Diversity Database within 5 miles of the lower portions of the defensible space project area, primarily within the riparian corridors of Big Chico Creek, Butte Creek, and the Feather River (Diversity Database 2023). One occurrence along Wilson Creek is within the action area of the defensible space project area. Therefore, the beetle is expected to be present within elderberry plants in portions of the defensible space project area below 500 feet in elevation. However, the subapplicants have proposed conservation measures, including avoidance of elderberry plants aside from limited trimming, that are expected to prevent any adverse effects to the beetle.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the beetle. The proposed project reached the "may affect" level for the beetle, and the subsequent requirement for a biological assessment because a portion of the proposed project is within the range of the beetle, elderberry plants are found within the proposed project area, and the beetle is known to occur in the area. However, due to the proposed conservation measures, the Service believes that any potential adverse effects to the beetle from the proposed project are extremely unlikely to occur, and thus are considered discountable for the purposes of this consultation.

California Red-legged Frog

The red-legged frog persists in isolated populations in the Sierra Nevada, breeding in ponds or slow-moving streams and utilizing adjacent upland habitat for foraging, shelter, and occasionally long-distance movement (Service 2022a). The closest known occurrence of the red-legged frog is approximately 3 miles from the defensible space project area at Hughes Pond on the Plumas National Forest (Service 2022a, Diversity Database 2023). Although systematic surveys have not been completed within the project areas, this is the only known occurrence in the vicinity. Portions of the project areas contain suitable habitat for the red-legged frog, including perennial and seasonal streams, but proposed project work will occur along roadways and adjacent to existing development. Therefore, it is unlikely that red-legged frogs are present within the project areas. In addition, the subapplicants have proposed several conservation measures, including daily surveys and biological monitoring, that are expected to prevent any adverse effects to the red-legged frog.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the red-legged frog. The proposed project reached the "may affect" level for the red-legged frog, and the subsequent requirement for a biological assessment because the proposed project is within the range of the red-legged frog, habitat for the red-legged frog exists within the proposed project area, and the red-legged frog is known to occur in the vicinity. However, due to the low likelihood that the red-legged frog will be present in the proposed project area and considering the proposed conservation measures, the Service believes that any potential adverse effects to the red-legged frog from the proposed project are extremely unlikely to occur, and thus are considered discountable for the purposes of this consultation.

North Feather Distinct Population Segment of the Foothill Yellow-legged Frog

The foothill yellow-legged frog is a stream-obligate species, breeding along mainstem channels and overwintering in smaller tributary streams (Service 2021). The proposed project areas are within the range of the foothill yellow-legged frog. There are numerous known occurrences of the foothill yellow-legged frog in the Diversity Database in the vicinity, including a number that overlap with both the road project and the defensible space project areas (Diversity Database 2023). There are several large perennial streams and rivers and hundreds of intermittent and ephemeral streams within the proposed project areas that may provide suitable aquatic habitat for the foothill yellow-legged frog. Therefore, the foothill yellow-legged frog is expected to be found within the proposed project areas. Proposed work will occur along roadways and adjacent to existing development, and no work will occur within at least 100 feet of any streams that provide suitable habitat for the foothill yellow-legged frog. Because the foothill yellow-legged frog is closely tied to its aquatic habitat, it is unlikely that they would be found within any areas of proposed work. In addition, the subapplicants have proposed several conservation measures, including daily surveys and biological monitoring, that are expected to prevent any adverse effects to the foothill yellow-legged frog.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the foothill yellow-legged frog. The proposed project reached the "may affect" level for the foothill yellow-legged frog, and the subsequent requirement for a biological assessment because the proposed project is within the range of the foothill yellow-legged frog, habitat for the foothill yellow-legged frog exists within the proposed project area, and the foothill yellow-legged frog is known to occur within

the proposed project area. However, due to the low likelihood that the foothill yellow-legged frog will be present in the proposed project work areas and considering the proposed conservation measures, the Service believes that any potential adverse effects to the foothill yellow-legged frog from the proposed project are extremely unlikely to occur, and thus are considered discountable for the purposes of this consultation.

Sierra Nevada Yellow-legged Frog

The Sierra Nevada yellow-legged frog inhabits lakes, ponds, marshes, meadows, and streams at elevations ranging from 4,500 to 12,000 feet (Service 2013a). Highly aquatic, they are generally not found more than 1 meter from water. The road project is outside of the range of the Sierra Nevada yellow-legged frog. Only a small portion of the defensible space project area at its highest elevations is within the range of the Sierra Nevada yellow-legged frog. There are two known occurrences of the Sierra Nevada yellow-legged frog in the Diversity Database along Butte Creek within the defensible space project area; however, both represent collections from 1923 and are mapped with low accuracy (Diversity Database 2023). Due to the age of known occurrences in the vicinity and considering the small overlap at the edge of the species range, it is unlikely that Sierra Nevada yellow-legged frogs would be found within the proposed project area. Also, proposed work will occur along roadways and adjacent to existing development, and no work will occur within at least 100 feet of any streams that provide suitable habitat for the Sierra Nevada yellow-legged frog. Because the Sierra Nevada yellow-legged frog is closely tied to its aquatic habitat, it is unlikely that they would be found within any areas of proposed work. In addition, the subapplicants have proposed several conservation measures, including daily surveys and biological monitoring, that are expected to prevent any adverse effects to the Sierra Nevada yellow-legged frog.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the Sierra Nevada yellow-legged frog. The proposed project reached the “may affect” level for the Sierra Nevada yellow-legged frog, and the subsequent requirement for a biological assessment because a portion of the proposed project is within the range of the Sierra Nevada yellow-legged frog, habitat for the Sierra Nevada yellow-legged frog exists within the proposed project area, and there are historical occurrences of the Sierra Nevada yellow-legged frog within the proposed project area. However, due to the low likelihood that the Sierra Nevada yellow-legged frog will be present in the proposed project work areas and considering the proposed conservation measures, the Service believes that any potential adverse effects to the Sierra Nevada yellow-legged frog from the proposed project are extremely unlikely to occur, and thus are considered discountable for the purposes of this consultation.

Sierra Nevada Distinct Population Segment of the California Spotted Owl

The spotted owl is continuously distributed throughout the mixed-conifer forests of the western side of the Sierra Nevada, with nesting at elevations of 1,000 to 7,740 feet (Service 2022b). The road project area and upper elevations of the defensible space project area are within the range of the spotted owl. There are numerous occurrences and known activity centers of the spotted owl in the Spotted Owl Observations Database (Owl Database) in the vicinity of and within the project areas (Owl Database 2023). The proposed project is not expected to result in a decrease in habitat quality for the spotted owl, as proposed project work will occur only along roadways and adjacent to existing development and hazardous tree removal is focused on trees that are already dead or dying. Along the road project, larger diameter trees with unique structural

features on the outer edges of the right-of-way will be retained. In addition, the subapplicants have proposed conservation measures, including seasonal work restrictions for noise and retention of trees and snags that provide nesting structure, that are expected to prevent any adverse effects to the spotted owl.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the spotted owl. The proposed project reached the "may affect" level for the spotted owl, and the subsequent requirement for a biological assessment because the proposed project is within the range of the spotted owl, habitat for the spotted owl exists within the proposed project area, and the spotted owl is known to occur in the proposed project areas. However, due to the fact that the proposed project is not expected to result in a decrease of habitat quality and considering the proposed conservation measures, the Service believes that any potential adverse effects to the spotted owl from the proposed project are extremely unlikely to occur and should never reach the scale where take occurs, and thus are considered discountable and insignificant for the purposes of this consultation.

Western Distinct Population Segment of the Yellow-billed Cuckoo

In northern California, the cuckoo is only known to breed regularly along the Sacramento River, roughly between Colusa and Red Bluff (Service 2013b). Only a portion of the defensible space project area below Lake Oroville is within the current range of the cuckoo. This area may provide some suitable riparian habitat for the cuckoo, but cuckoos would not be expected to nest in this area. Any cuckoos utilizing the habitat during migration would be able to fly to additional habitat in the area. In addition, the subapplicants have proposed conservation measures, including avoidance of work during the cuckoo's nesting season and limiting removal of riparian vegetation, that are expected to prevent any adverse effects to the cuckoo.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the cuckoo. The proposed project reached the "may affect" level for the cuckoo, and the subsequent requirement for a biological assessment, since a portion of the proposed project is within the range of the cuckoo, habitat for the cuckoo exists within the proposed project area, and the cuckoo could utilize this habitat. However, due to the low likelihood that the cuckoo will be present in the proposed project area and considering the proposed conservation measures, the Service believes that any potential adverse effects to the cuckoo from the proposed project are extremely unlikely to occur, and thus are considered discountable for the purposes of this consultation.

This concludes the Service's review of the Butte County—Defensible Space and Vegetation Management Project. No further coordination with the Service under the Act is necessary at this time. Please note, however, that this letter does not authorize take of listed species. As provided in 50 CFR §402.16(a), reinitiation of consultation is required and shall be requested by the federal agency or by the Service where discretionary federal involvement or control over the action has been retained or is authorized by law, and:

1) New information reveals the effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this review;

2) The agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this review; or

3) A new species is listed, or critical habitat designated that may be affected by the action.

If you have any questions regarding this letter, please contact Lily Douglas, Senior Fish and Wildlife Biologist, by email (lily_douglas@fws.gov) or by phone at (916) 414-6685, or me by email (ian_perkins-taylor@fws.gov), by phone at (916) 414-6585, or at the letterhead address.

Sincerely,

Ian Perkins-Taylor
Acting Sacramento Valley Division Supervisor

Enclosure

cc:
Lisa Roberts, Environmental and Historic Preservation, FEMA Region IX, Oakland, California
Adam Klatzker, Environmental and Historic Preservation, FEMA Region IX, Oakland, California

LITERATURE CITED

California Department of Forestry and Fire Protection. 2022. California Forest Practice Rules 2022. Title 14, California Code of Regulations, Chapters 4, 4.5, and 10.

[Diversity Database] California Department of Fish and Wildlife. 2023. California Natural Diversity Database – Government version dated October 2, 2023. Accessed October 2023.

[Owl Database] California Department of Fish and Wildlife. 2023. Spotted Owl Observation Database – Government version dated September 29, 2023. Accessed October 2023.

[Service] U.S. Fish and Wildlife Service. 2013a. Endangered and Threatened Wildlife and Plants; Endangered Status for the Sierra Nevada Yellow-Legged Frog and the Northern Distinct Population Segment of the Mountain Yellow-Legged Frog, and Threatened Status for the Yosemite Toad; Proposed Rule. 78 FR 24471–24514. April 25, 2013.

[Service] U.S. Fish and Wildlife Service. 2013b. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellow- Billed Cuckoo (*Coccyzus americanus*); Proposed Rule. 78 FR 61621–61666. October 3, 2013.

[Service] U.S. Fish and Wildlife Service. 2019a. Stebbins' morning-glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), Pine Hill flannelbush (*Fremontodendron californicum* ssp. *decumbens*), El Dorado bedstraw (*Galium californicum* ssp. *sierrae*), Layne's butterweed (*Packera layneae*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office, Sacramento, California. May 2019.

[Service] U.S. Fish and Wildlife Service. 2019b. Revised Recovery Plan for Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). Pacific Southwest Region, Region 8, Sacramento, California. October 4, 2019.

[Service] U.S. Fish and Wildlife Service. 2021. Species Status Assessment Report for the Foothill Yellow-legged Frog (*Rana boylii*), Version 2.0. Sacramento Fish and Wildlife Office, Sacramento, California. October 2021.

[Service] U.S. Fish and Wildlife Service. 2022a. California Red-Legged Frog *(Rana draytonii*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office, Sacramento, California. December 2022.

[Service] U.S. Fish and Wildlife Service. 2022b. Species Status Assessment Report for the California Spotted Owl (*Strix occidentalis occidentalis*), Version 2.0. Sacramento Fish and Wildlife Office, Sacramento, California. November 2022.

Enclosure

The Declining Amphibian Task Force Fieldwork Code of Practice

A code of practice, prepared by the Declining Amphibian Task Force (DAPTF) to provide guidelines for use by anyone conducting field work at amphibian breeding sites or in other aquatic habitats. Observations of diseased and parasite-infected amphibians are now being frequently reported from sites all over the world. This has given rise to concerns that releasing amphibians following a period of captivity, during which time they can pick up unapparent infections of novel disease agents, may cause an increased risk of mortality in wild populations. Amphibian pathogens and parasites can also be carried in a variety of ways between habitats on the hands, footwear, or equipment of fieldworkers, which can spread them to novel localities containing species which have had little or no prior contact with such pathogens or parasites. Such occurrences may be implicated in some instances where amphibian populations have declined.
Therefore, it is vitally important for those involved in amphibian research (and other wetland/pond studies including those on fish, invertebrates and plants) to take steps to minimize the spread of disease and parasites between study sites.

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires and all other surfaces. Rinse cleaned items with sterilized (e.g. boiled or treated) water before leaving each study site.

2. Boots, nets, traps, etc., should then be scrubbed with 70% ethanol solution (or sodium hypochlorite 3 to 6%) and rinsed clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland.

3. In remote locations, clean all equipment as described above upon return to the lab or "base camp". Elsewhere, when washing machine facilities are available, remove nets from poles and wash with bleach on a "delicates" cycle, contained in a protective mesh laundry bag.

4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolates species, wear disposable gloves and change them between handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean and store them separately and the end of each field day.

5. When amphibians are collected, ensure the separation of animals from different sites and take great care to avoid indirect contact between them (e.g. via handling, reuse of containers) or with other captive animals. Isolation from un-sterilized plants or soils which have been taken from other sites is also essential. Always use disinfected/disposable husbandry equipment.

6. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.

7. Used cleaning materials (liquids, etc.) should be disposed of safely and if necessary taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags.

ESA/MSA Review Form for FEMA Projects Covered Under the NMFS PBO

INSTRUCTIONS: This Endangered Species Act/Magnuson Stevens Fishery Conservation and Management Act (ESA/MSA) Review Form is for Subapplicant's proposed projects that may be funded under various Federal Emergency Management Agency (FEMA) grant programs in California and that would be covered under the National Marine Fisheries Service (NMFS) Programmatic Biological Opinion (PBO). This form must be filled out by a qualified biologist[1], who is knowledgeable on the ESA and MSA, federally listed species[2], their suitable habitats, and Critical Habitat[3] in California.

This form provides information for FEMA to make a determination of effects on federally listed species, their Critical Habitat, and Essential Fish Habitat[4] (EFH) resulting from implementation of the Subapplicant's proposed project for compliance with the ESA and MSA. For projects that meet the Suitability Criteria and other conditions for coverage under in the NMFS PBO, FEMA would submit this form to NMFS and request ESA/MSA coverage under the NMFS PBO.

This form includes two summary tables and six sections (check the sections being submitted):

- ☒ **Table 1:** Summary of ESA Effect Determinations on covered species[5] and Critical Habitat,
- ☒ **Table 2:** Summary of MSA Effect Determinations on EFH,
- ☒ **Section A:** Information on the Subapplicant's proposed project,
- ☒ **Section B:** Potential presence of covered species and/or Critical Habitat,
- ☒ **Section C:** ESA effect determinations for covered species and/or Critical Habitat,
- ☒ **Section D:** Determination of effects to Essential Fish Habitat protected under the MSA,
- ☒ **Section E:** For NMFS to complete and sign, and
- ☒ **Section F:** For Subapplicant to complete and sign.

[1] A qualified Biologist consists of an environmental professional with at least a Bachelor's degree in Fisheries Biology, Biology, Ecology, Natural Resources, Environmental Sciences, or similar field, and has at least two years of experience working with federally listed species, their habitats, and Endangered Species Act implementation in the State of California.

[2] In this form, the term "federally listed species" includes species listed or proposed to be listed as threatened or endangered under Endangered Species Act.

[3] In this form, the term "Critical Habitat" refers to designated critical habitat and proposed critical habitat for federally listed species protected under the Endangered Species Act.

[4] Essential Fish Habitat is defined as waters and substrate necessary to complete the life cycle of species managed under a Federal Fishery Management Plan.

[5] In this form, the term "covered species" refers to the thirteen federally listed species that are covered in the FEMA PBA and the NMFS PBO. These thirteen covered species are protected under the Endangered Species Act and are under NMFS jurisdiction.

After completing the applicable sections of this form, please complete the Summary Table below.

Table 1. Summary of ESA Effect Determinations

Species 1 (Chinook Salmon – Central Valley Spring-Run Evolutionarily Significant Unit, *Oncorhynchus tshawytscha*, Threatened)		
Project Name (FEMA Grant # or Disaster # and Project Worksheet #) and Site/LOP#s	**ESA Determination on Species**	**ESA Determination on Critical Habitat**
The County Road Hazardous Fuels Reduction project (referred to as the Right-of-Way [ROW] Project) HMGP-4407-020-144	• No effect	• May affect, but is not likely to adversely affect Critical Habitat
The Defensible Space and Hazardous Fuels Reduction Program (referred to as Butte County Fire Safe Council [BCFSC] Program) HMGP 4407-497-056	• May affect, but is not likely to adversely affect	• May affect, but is not likely to adversely affect Critical Habitat
Species 2 (California Central Valley Steelhead, *Oncorhynchus mykiss irideus*, Threatened)		
Project Name (FEMA Grant # or Disaster # and Project Worksheet #) and Site/LOP#s	**ESA Determination on Species**	**ESA Determination on Critical Habitat**
The County Road Hazardous Fuels Reduction project (referred to as the Right-of-Way [ROW] Project) HMGP-4407-020-144	• May affect, but is not likely to adversely affect	• May affect, but is not likely to adversely affect Critical Habitat
The Defensible Space and Hazardous Fuels Reduction Program (referred to as Butte County Fire Safe Council [BCFSC] Program) HMGP 4407-497-056	• May affect, but is not likely to adversely affect	• May affect, but is not likely to adversely affect Critical Habitat

Has an ESA consultation previously been conducted for this project outside the NMFS PBO?

☐ **YES** ☒ **NO**

If yes, this project may have already complied with ESA and MSA and there may be no need to complete this ESA/MSA Review Form.

Table 2. Summary of MSA Effect Determinations

Chinook Salmon EFH	
Project Name (FEMA Grant # or Disaster # and Project Worksheet #) and Site/LOP#s	**MSA Effect Determination**
The County Road Hazardous Fuels Reduction project (referred to as the Right-of-Way [ROW] Project) HMGP-4407-020-144	• No adverse effect on EFH
The Defensible Space and Hazardous Fuels Reduction Program (referred to as Butte County Fire Safe Council [BCFSC] Program) HMGP 4407-497-056	• No adverse effect on EFH

Note 1: If the Subapplicant's proposed project is under another Federal agency's jurisdiction (e.g., U.S. Forest Service, National Park Service, Bureau of Land Management, Bureau of Reclamation, etc.) or another Federal agency is functioning as the Lead Federal Agency (e.g., U.S. Army Corps of Engineers), then there is no need to prepare this FEMA form.

Note 2: FEMA is not requesting concurrence from NMFS for sites with a No effect determination. Instead, FEMA is simply documenting its No Effect determinations for specific sites for internal record-keeping.

Name of Qualified Biologist, Organization, and Date of Preparation:

Mary Looney, CDM Smith, 11/17/2023

Biologist's Qualifications: Over 4 years of working with and researching listed, threatened, and endangered marine mammals and sea turtles in the United States, Canada, and Mexico, with two of those years working with scientist and the stranding network on the western coast of the United States (California, Oregon, Washington, and Alaska). This also includes experience with regulatory compliance from a research perspective as well as MMPA, NOAA, CITES, and NMFS permitting.

Professional Degree: PhD Environmental Toxicology Texas Tech University; B.S. Biology Middle Tennessee State University

Years of experience working with federally listed species, their habitats, and Endangered Species Act implementation in the State of California: 2 years

SECTION A. INFORMATION ON THE SUBAPPLICANT'S PROPOSED PROJECT (press F11 to advance to the next field)

***If more than one project or project site is included in this form, please differentiate between projects or project site by numbering the projects or sites in parentheses. Please use the same distinction between projects or sites throughout the entire form. For example, (Project 1, Project 2, Site 1, Site 2, etc.)**

A.1. Name of Subapplicant[6] (Agency Name):

Butte County / Butte County Fire Safe Council

A.2. Project Name, and FEMA Grant # or Disaster and Project Worksheet (PW) #s:

Butte County – Defensible Space and Vegetation Management, **HMGP-4407-020-144** and **HMGP-4407-497-056**

A.3. Project Location (street address, latitude/longitude, or UTM and Datum/Zone), and Municipality/County/State:

The County Road Hazardous Fuels Reduction project (referred to as the Right-of-Way [ROW] Project) component of the Proposed Action would be within Butte County's existing ROW along 12 miles of a main road, the Skyway, from Magalia to Stirling City, Butte County, California (**HMGP-4407-020-144**). The project location is shown in Attachment A, Figure 1.

The Defensible Space and Hazardous Fuels Reduction Program (referred to as Butte County Fire Safe Council [BCFSC] Program) components of the Proposed Action would be within the eastern portion of Butte County, excluding the Town of Paradise (which is seeking its own HMGP funding). The BCFSC Program would treat areas that are both within 500 feet of major evacuation routes and within 300 feet of homesites throughout Butte County's wildland urban interface (WUI) area (**HMGP 4407-497-056**). The project location is shown in Attachment A, Figure 2.

A.4. Project Type: Select the Subapplicant's proposed project type as either a "Standard Action" or a "Framework Action" as defined in Table 1 in the NMFS PBO. Framework Actions that have a determination of "<u>May Affect, Likely to Adversely Affect</u>" (LAA) for Covered Species and/or Critical Habitat require additional consultation.

<u>Standard Action</u>

- ☐ **Non-Emergency Debris Removal**
- ☐ **Road and Trail Construction ***
- ☐ **Utility Construction ***
- ☐ **Rail Line Construction***

<u>Framework Action</u>

- ☐ **Airport Runway Construction****
- ☐ **Road and Trail Construction ****
- ☐ **Utility Construction ****
- ☐ **Facility Disaster Mitigation Activities**

[6] In the case of a Tribe, the term to be used can be "Applicant" or "Subapplicant" depending on the status of the grant application.

☐ **Flood Control Activities**	☐ **Building and Facility Construction****
☐ **Culvert Construction***	☐ **Stormwater Management Construction****
☐ **Bridge Construction***	☐ **Flood Control Activities**
☐ **Bank Protection, Stabilization, and Erosion Control Activities**	☐ **Bank Protection, Stabilization, and Erosion Control Activities**
☐ **Detention/Retention, or Basin Water Storage Facility Construction***	☐ **Detention/Retention, or Basin Water Storage Facility Construction****
☐ **Linear Water Conveyance Facility Construction***	☐ **Linear Water Conveyance Facility Construction****
☐ **Shoreline Facilities - Recreational or Maritime Use**	☐ **Shoreline Facilities - Recreational or Maritime Use**
☐ **Shoreline Facilities – Protection**	☐ **Shoreline Facilities – Protection**
☒ **Wildfire Risk reduction - Defensible Space Creation and Hazardous Fuels Reduction** Standard Action	

*For Standard Actions, the term "construction" may include repairing or replacing an existing facility.
**For Framework Actions, the term "construction" may include repairing, relocating, modifying, or demolishing an existing facility or constructing a new facility.

A.5. Description of Subapplicant's Proposed Project:

Provide a detailed narrative of the project that clearly describes the scope of work at a sufficient level of detail to support all analysis needed for compliance with the ESA and MSA (please note, this will likely include additional detail found in project plans, design drawings, site visits, etc.). Please explain construction methods here (e.g., equipment to be used, access routes, construction work areas, construction staging areas, pile driving methods and materials, etc.), and see Section A.7 below to add further details concerning construction duration and timing. Include the Subapplicant's best management practices[7] (BMPs) to be implemented and other Subapplicant-planned measures and post-construction activities, if applicable.

ROW Project

Butte County proposes to conduct hazardous fuels reduction within the County's existing ROW along 12 miles of Skyway, from Magalia to Stirling City (Attachment A, Figure 1). Hazardous fuels reduction would involve removing trees, shrubs, ladder fuels, and other vegetation to reduce the fuel load within the ROW. Treatment would focus on removing dead, downed, diseased, dying, or decadent trees, trees in dense stands, and chaparral species. The project would include removing brush, pruning trees, removing and chipping understory trees, and thinning overstory trees. Trees less than 8-inches diameter at breast height (DBH) and brush would be removed. Some trees would be retained to create a shaded fuel break. In addition, larger diameter trees and chaparral plants with unique structural features on the outer edges of the ROW would be retained to support and promote wildlife species and habitat. Trees that are retained would be limbed and pruned to remove low branches and ladder fuels. Vegetation would be cut up to 35 feet from the paved edges of the roads. Chips and cut vegetation would be scattered and left in place, piled, and burned in accordance with local air quality standards and burn permit requirements, or hauled to a permitted facility.

All trees to be removed would be cut as close to ground level as possible, with the stumps and rootballs left in place. Stumps would be cut so that they do not exceed 4 inches from the ground. The distance between trees would be determined by the slope of the area, with a minimum distance of 15 feet between tree canopies. Limbing and pruning would be done by hand, and masticators mounted on excavators would be used to masticate brush and small trees. The tracked masticators would have rubber pads to reduce damage to roadways and native surfaces. The masticator would spread vegetative debris over the work areas and chips would be left where they fall. Other cut vegetation would either be chipped and scattered or piled and burned in accordance with local air quality standards and burn permit requirements, depending on site-specific conditions. If excessive debris is generated that cannot be addressed by the aforementioned methods, it would be hauled to a permitted facility for

[7] The BMPs are measures proposed by the Subapplicant, which are different from the general avoidance and minimization measures required in the NMFS PBO.

appropriate green waste disposal. Larger logs would be lifted out of the ROW onto trucks to be hauled off-site for disposal.

All work and staging would be within the county ROW (**Attachment A, Figure 1**). Staging would occur along the roadways and in previously disturbed areas. All staging would be kept at least 300 feet from any vernal pools, vernal pool grasslands, or wetlands. Lowboy trucks and trailers would be used to transport equipment to daily job sites and to return the equipment to one of the nearby Butte County Department of Public Works fleet service shops for fueling and maintenance at the end of each day. Equipment used would include excavators, tracked mulching tractors, brush rake tractors, tracked and conventional chippers, and hand-held tools. Work would be conducted by one crew consisting of traffic controllers, equipment operators, and a crew supervisor. Field personnel would attend a mandatory environmental education program, and a biologist would monitor all activities that would potentially impact listed species. Any nearby vernal pool, vernal pool grassland, or wetland would be protected from sedimentation and contaminant runoff using erosion controls, and all equipment would remain at least 300 feet from vernal pool habitats unless on a paved or graveled roadway No vegetation removal would be performed near any wetlands, ponds, or rivers and a minimum 25-foot to 150-foot buffer would be placed around these resources, dependent upon stream class and slope, as recommended by NMFS to FEMA during review of Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619). These buffer classifications are further described in Section A.6, and no work would occur in these established setbacks. No material would be placed in streams, vernal pools, or wetlands. The crew would direct traffic around equipment along the roadside and would have onboard water tanks with pumps to extinguish any sparks created during operation.

Follow-up maintenance is not part of the proposed federal grant funding; however, it is a requirement of the grant award and may be considered an interrelated effect of the Proposed Action. Butte County would maintain the fuel reduction zone in the Skyway ROW, which would include the application of herbicides along the roadway using booms attached to a vehicle. Only U.S. Environmental Protection Agency-approved herbicides would be used to control the growth of undesired vegetation, and all herbicide applications would follow the product label application instructions and best management practices (BMPs) for the use of herbicides.

BCFSC Program

BCFSC proposes to reduce the risk of wildfire-related hazards by assisting interested property owners with creating defensible space and reducing hazardous fuels at eligible homesites that are both within the WUI and within 500 feet of a main evacuation route (Attachment A, Figure 2). The project would create defensible space at up to 1,400 homesites and conduct fire-hazard tree removal at 1,200 homesites. Homesites may have both activities conducted on the property. Crews conducting defensible space creation would hand-cut vegetation, which would then be chipped on-site. For tree removal, a certified arborist and registered professional forester (RPF) would assess trees 10-inches DBH and larger to determine whether the trees are a fire hazard. Hazard tree removal would be limited to burned trees assessed to be dead or dying. Licensed tree contractors would perform the tree removal.

Homesites would be eligible for the BCFSC Program if they are within the WUI and within 500 feet of a main evacuation route. This ensures that work would achieve the dual purpose of creating defensible space for homeowners while also improving evacuation route safety during wildfire events. Work would be done throughout Butte County, with the exception of the Town of Paradise, which is seeking its own hazard mitigation grant funding and is the subject of a separate consultation.

Phase one of the BCFSC Program is not included under the current scope. Activities defined under Phase one are purely administrative and would have no ESA impacts. It began in early 2022 and includes assembling a team and building a framework for managing the program. This phase also includes outreach, identifying locations for implementation work, and obtaining right-of-entry (ROE) forms from landowners as they voluntarily join the program. Staff for the program includes an arborist to make sure that healthy trees are not unnecessarily removed, a geographic information system specialist to create a geospatial database of project sites, and a State of California–licensed RPF to ensure the project remains in compliance with California laws and regulations. The RPF will also develop and manage an invasive species management plan. Two project managers will be hired to see the entire program through from start to finish. The program team will develop program eligibility criteria and application/ROE forms, plus additional documents as needed, in conjunction with Cal OES. These activities are administrative and do not involve any vegetation removal or ground disturbance.

Phase two would include the implementation of three subprograms: (1) Defensible Space Evaluations/Inspections; (2) Defensible Space Creation (i.e., where hired crews would create defensible space with or without help from the property owners); and (3) Fuels Reduction through Fire-Hazard Tree Removal. All three subprograms would operate concurrently.

After site identifications are complete under phase one, defensible space creation treatments would be developed that identify the vegetation to be removed to provide defensible space around each structure. Landowners would have the option to participate in the BCFSC Program or do the work themselves. Landowners would also have the option to participate in the BCFSC fuels reduction program if their properties have dead or dying burnt fire-hazard trees 10-inches DBH or larger. BCFSC estimates that up to 2,600 homesites would be identified for potential participation in the program, with defensible space creation at up to 1,400 homesites and large fire-hazard tree removal at up to 1,200 homesites. Homesites may have both activities conducted on the property.

On properties where landowners have expressed an interest in having defensible space creation completed for them, work crews would then be dispatched to complete the work. Landscaping and vegetation within 100 feet of existing structures would be modified to be consistent with the requirements of California Public Resources Code 4291, which sets defensible space standards for mountainous, forest-, brush-, and grass-covered lands. Defensible space would be created by thinning shrubs and trees 10-inches DBH or less to achieve at least a 20-foot spacing between the tree crowns. Any vernal pool, vernal pool grassland, or wetland identified during initial site reconnaissance would be protected from sedimentation and contaminant runoff by use of erosion controls, and all equipment would remain at least 300 feet from vernal pool habitats unless on a paved or graveled roadway. No vegetation removal would be performed near any wetlands, ponds, or rivers. An RPF would identify and establish setbacks of at least 25 feet around these resources, dependent upon stream class and slope, as recommended by NMFS for the State Hazard Tree Removal Program. Work crews would hand-cut vegetation with hand tools and either stack brush at designated areas, chip material, or cut it into smaller pieces and scatter it on-site. Masticators or other heavy equipment would not be used. Defensible space creation work would proceed in compliance with all applicable regulations and environmental review documents. The RPF would identify any streams and wetlands and establish setbacks of at least 25 feet, as recommended by NMFS. These setbacks are the same as for the ROW Project and are described in more detail in Section A.6. No work would occur in these designated setbacks. Vegetation cut by crews would be either chipped and spread on-site or trucked to a permitted facility for disposal. No material would be placed in streams, vernal pools, or wetlands, and these resources would not be affected by project activities. A tow-behind chipper would be used for most locations, but in areas of extreme terrain, a tracked chipper would be used. Staging would occur along existing access roads or other previously disturbed areas, and there would be no need for grading or leveling.

On properties where landowners have expressed an interest in having fire-hazard trees removed, the certified arborist and RPF would assess trees 10-inches DBH and larger to determine whether the trees are a fire hazard. They would identify the number, type, and size of tree(s) for removal. Tree species to be removed would include California black oak (*Quercus kelloggii*), incense cedar (*Calocedrus decurrens*), ponderosa pine (*Pinus ponderosa*), gray pine (*Pinus sabiniana*), and Douglas fir (*Pseudotsuga menziesii*) and would vary in size from 10-inches DBH to 60-inches DBH. Hazardous tree removal would be limited to burned trees assessed to be dead or dying. The program team would ensure that all tree removal operations comply with the environmental review and permitting documents.

Licensed tree contractors would perform the tree removal. All trees slated for removal would be on private property within 300 feet of a homesite and within 500 feet of an evacuation route. Trees would be removed at the base with tree root balls left intact. Stumps would be cut to not exceed 12 inches from the ground. Equipment used would include excavators, grapple trucks, tracked shovel or log loaders, skidders, skid steers, bumper pull chippers, and whole-tree drum chippers. After trees have been felled, they would be dragged to a staging area and trucked to a permitted facility for disposal. Staging would occur along existing access roads or other previously disturbed areas, and there would be no need for grading or leveling. Throughout phase two, the arborist and RPF would ensure that the program stays in compliance with California regulations, which include BMPs as defined by the California Forest Practice Rules (California Department of Forestry and Fire Protection Resource Management, Forestry Practice Program 2020).

References

California Department of Forestry and Fire Protection Resource Management, Forestry Practice Program (CDF). 2020. *California Forest Practice Rules 2020*. Accessed March 8, 2022. https://bof.fire.ca.gov/media/9478/2020-forest-practice-rules-and-act_final_ada.pdf.

Attach project plans, layouts, engineering drawings, if available. Reference those attachments below.

Attachment A, Figures 1 – 4 show the project vicinities and action areas.

Describe the construction equipment: Equipment used would include hand tools (e.g., chainsaws, loppers), excavators, grapple trucks, tracked shovel or log loaders, skidders, skid steers, bumper pull chippers, and whole-tree drum chippers. A tow-behind chipper would be used for most locations, but in areas of extreme terrain or no road access, a tracked chipper would be used.

Describe the access routes: Access routes would occur on current roadways.

Describe the construction staging and work areas: Staging would occur along existing access roads or other previously disturbed areas and there would be no need for grading or leveling. Staging and access areas will be situated in areas that are previously disturbed, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation.

If the Subapplicant's proposed project includes vegetation removal and/or trimming, describe the vegetation type and the extent that would be removed and/or trimmed.

ROW Project

Treatment would focus on removing dead, downed, diseased, dying, or decadent trees, trees in dense stands, and chaparral species. The project would include removing brush, pruning trees, removing and chipping understory trees, and thinning overstory trees. Trees less than 8-inches DBH and brush would be removed.

BCFSC Program

Tree species to be removed would include California black oak, incense cedar, ponderosa pine, gray pine, and Douglas fir, and would vary in size from 10-inches DBH to 60-inches DBH. Hazardous tree removal would be limited to burned trees assessed to be dead or dying.

If the Subapplicant's proposed project includes vegetation removal and/or trimming, describe the planned revegetation efforts, which should be consistent with the measures described in the NMFS PBO.

NA. No revegetation is planned for this project as it is intended to reduce vegetation density in the treatment areas.

A.6. Description of the Action Area[8]:

Please attach a map(s), aerial image, photographs, GIS data layers, and other information on the Action Area.

The attachments include:

Attachment A: Figures (**Figure 1**. ROW Project Vicinity, **Figure 2**. BCFSC Project Vicinity, **Figure 3**. ROW Action Area, **Figure 4**. BCFSC Action Area, **Figure 5.** ROW Waterbodies, **Figure 6**. BCFSC Waterbodies, **Figure 15**. CVSR Chinook Salmon CNDDB Occurrence and Critical Habitat, **Figure 16**. CCV Steelhead Critical Habitat)

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

Briefly describe the project footprint[9], and include the size of the project footprint (acres, square feet, etc.): The ROW project would extend along 12 miles of Skyway within Butte County's existing ROW, from Magalia to Stirling City, and would encompass approximately 134 acres along the roadway shoulders of the Skyway.

The BCFSC Program would treat areas within 500 feet of evacuation routes and within 300 feet of a homesite throughout Butte County's WUI area. There are approximately 650 miles of evacuation routes within Butte County's WUI area. This review analyzes the full area within 500 feet of those evacuation routes within the WUI area. This review analyzes the maximum possible project footprint assuming full participation by all landowners of approximately 52,000 acres; however, the final work areas would likely be smaller based on participation and further refinement and assessment.

Briefly describe the Action Area in a few sentences including the size of the Action Area (acres, square feet, etc.) and explain the buffer or distance from the project footprint used to define the Action Area:

To account for potential noise impacts, the action area (AA) includes a 0.25-mile buffer extending outward from the project area boundary. Because this evaluation also considered species under the jurisdiction of U.S. Fish and Wildlife Service (USFWS), this buffer distance is based on established sources that indicate there would be no effect on nesting California Spotted Owls—the species life stage most sensitive to noise disturbance of those considered in the analysis (Attachment E)—at a distance of 0.25 miles from heavy equipment and large gasoline-powered tool operation.

Please include a description of the vegetation communities, aquatic habitats, slope, and any sensitive biological resources in the Action Area.

ROW Project

Starting at the southern extent of the AA, the project alignment traverses generally north for approximately 4.5 miles through primarily low-intensity development in and north of Magalia. Continuing north of Magalia, the habitats change into mixed-conifer and deciduous forests until reaching Stirling City. Major water bodies that overlap with or are near to the AA include Butte Creek, Little Butte Creek, Magalia Reservoir, Lake De Sabla, and Paradise Lake (Attachment A, Figure 5).

BCFSC Program

The BCFSC Program work areas occur in the central and east portions of Butte County, east of State Highway 99 in the north and State Highway 70 in the south (Attachment A, Figure 2). Moving east from State Highway 99 and State Highway 70, elevations begin to increase into the foothills where chaparral, annual grasslands, and oak woodlands are common. As the elevation increases further to the east, biological communities transition from oak woodlands and chaparral to conifer forests at the highest elevations. Riparian woodland communities are supported along most stream corridors throughout Butte County (Butte County 2021).

Butte County contains 10 distinct types of biological communities and 21 habitat types. These biological communities are distributed in close association with the varying topography and hydrology of their respective areas and include conifer forests (montane hardwood-conifer, ponderosa pine, Sierran mixed conifer, red fir, subalpine conifer), oak woodlands (valley oak woodland, blue oak woodland, blue oak-foothill pine), riparian woodlands (montane riparian, valley-foothill riparian), chaparral, annual grasslands, wetlands (freshwater marsh, wet meadow, vernal pool), agricultural land, barren land, open water (reservoirs, ponds, drainages), and urban areas (Butte County 2021).

There are several drainages (rivers and streams), reservoirs, and ponds found throughout Butte County (Attachment A, Figure 6) that also support specific vegetation communities including riparian woodland corridors and wetlands and vernal pools. Freshwater marsh habitats can be found throughout the AA along the margins of open-water habitats and drainages. Vernal pool habitats occur primarily in the foothills within annual grasslands and blue oak woodlands. At higher elevations in the eastern portion of the planning area, wet meadows occur in margins of open-water habitats and drainages (Butte County 2019).

Urban areas throughout Butte County are relatively limited in regard to the native biological communities that may be present; however, horticultural plant species can be found in these areas. Urban horticultural and

[9] Project footprint corresponds to all the areas affected by implementation of the Subapplicant's proposed project, including structures, construction staging areas, access routes, any areas of ground disturbance, etc.

landscape communities are generally composed of monocultures of tree groves, street trees and planting strips, shade tree/lawn, lawn, and shrub cover (Butte County 2019; McBride and Reid 2005).

References

Butte County. 2021. *Butte County General Plan*. Accessed February 24, 2022. https://www.buttecounty.net/341/Butte-County-General-Plan.

Butte County Association of Governments (BCAG). 2019. *Butte Regional Conservation Plan*. Accessed March 13, 2023, http://www.buttehcp.com/BRCP-Documents/Final-BRCP/index.html.

McBride, J.R., and C. Reid. 2005. *California Wildlife Habitat Relationships System: Urban*. Accessed March 3, 2022. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67420&inline.

Are any rivers, streams, estuaries, or coastal water feature located within the Action Area?

☒ **YES** ☐ **NO**

If Yes, will in-water work be needed for completion of the Subapplicant's proposed project?

☐ **YES** ☒ **NO**

If No, how far is the aquatic feature from the limits of ground disturbance and/or vegetation removal?

Based on guidance provided to FEMA by NMFS during review of Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619) and the California Regional Water Quality Control Board recommendations, the avoidance buffers will be implemented for each stream class described below (California Regional Water Quality Control Board, Lahontan Region 2014):

Stream Class	Class I	Class II	Class III
Stream Class Characteristics	• Domestic supplies, including springs, on-site and/or within 100 feet downstream of project homesites and/or • Fish always or seasonally present on-site, which includes habitat to sustain fish migration and spawning	• Fish always or seasonally present off-site within 1,000 feet downstream and/or • Aquatic habitat for non-fish aquatic species (e.g., frogs) • Excludes Class III waters that are tributary to Class I waters	• No aquatic life present; watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high-water-flow conditions

The class for each stream would be identified in the field. Depending on the field conditions and stream class, the following avoidance buffers would be applied:

- Class 1 Stream: Work will be prohibited within 150 feet of each side of the stream channel regardless of slope.
- Class II Stream: Work will be prohibited within 100 feet of each side of the stream channel regardless of slope.
- Class III Stream: Work will be prohibited within 25 feet of each side of the stream channel where the slope of land adjacent to the channel is less than 30 percent and within 50 feet of each side of the stream channel where the slope of land adjacent to the channel is greater than 30 percent.

References

California Regional Water Quality Control Board, Lahontan Region. 2014. "Conditional Waiver of Waste Discharge Requirements for Waste Discharges Resulting from Timber Harvest and Vegetation Management Activities in the Lahontan Region." Board Order No. R6T-2014-0030. April 10, 2014.

What is the name of the river, stream, estuary, or coastal water feature? If the river/stream is a tributary, provide the name of the receiving water feature.

ROW Waterbodies (Figure 5)

Lake De Sabla, Magnolia Reservoir, and Little Butte Creek

BCFSC Waterbodies (Figure 6)

Willow Creek, Bull Creek, Butte Creek, Philbrook Creek, Fish Creek, Big Chico Creek, Rock Creek, Mud Creek, Little Chico Creek, Butte Creek, Little Butte Creek, West Branch Feather River, Clear Creek, Hamlin Slough, North Fork Feather River, Mill Creek, Dry Creek, Campbell Creek, Lake Oroville, Feather River, South Fork Feather River, Middle Fork Feather River, and Wilson Creek

A.7. Proposed Project Schedule and Duration:

Please provide start and end dates (including month and year) of project implementation, number of work days, and number of work hours per day (e.g., 5 days of work for 10 hours per day).

All work would be completed within 3 years. Butte County expects that the ROW Project work would span two seasons, with each season starting in early April and ending in late June, with 60 working days in each season. The primary driver for this time frame is to avoid both the wet season and the fire season. Defensible space creation and hazard tree removal under Phase 2 of the BCFSC Program would take approximately 15 months. Treatment at each of the potential work sites would take approximately 1 to 2 days to complete. Activities would be limited to daylight hours during weekdays.

Does construction of the Subapplicant's proposed project meet the "Work Windows for In-Water Activities by Geographic Region" in Appendix C of the NMFS PBO:

☐ **YES** ☒ **NO**

Start Date April 1, 2024 **End Date** June 30, 2025

Number of work days: 124 days (ROW Project); 309 days (BCFSC Program)

Number of work hours per day: 8 hours

Will in-channel work activities occur during nighttime? ☐ **YES** ☒ **NO**

A.8. Outside of FEMA's Memorandum of Understanding[10] (MOU) coordination with USACE, has a previous formal or informal ESA consultation or Technical Assistance with NMFS been initiated or completed for the Subapplicant's proposed project? This may include a larger project by another Federal agency (e.g., Corps 404 permit) that encompasses the proposed project.

☒ **YES** ☐ **NO**

If so, please include a copy of this documentation.

A biological assessment (BA) for this project was provided to NMFS for preliminary review in August 2023. An updated BA is included as Attachment E. The BA's appendices are identical to Attachments A-D that are already

[10] The MOU refers to the 2015 Executed Memorandum of Understanding Regarding National Environmental Policy Act, Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, National Historic Preservation Act, Rivers and Harbors Act Section 10 Permits, and Clean Water Act Section 404 Permits for Federal Emergency Management Agency Projects in California, Nevada, and Arizona (and subsequent annual updates).

provided with this ESA Review Form. In addition to analyzing effects on two salmonid species, the BA also analyzed a number of species under USFWS jurisdiction.

The BA presented FEMA's effect determinations for the following species under NMFS jurisdiction:

ROW Project

- Steelhead (*Oncorhynchus mykiss irideus*) – California Central Valley (CCV) DPS - *may affect, but is not likely to adversely affect*

BCFSC Program

- Chinook salmon (*Oncorhynchus tshawytscha*) – Central Valley spring run (CVSR) ESU - *may affect, but is not likely to adversely affect*
- Steelhead (*Oncorhynchus mykiss irideus*) – Central Valley DPS - *may affect, but is not likely to adversely affect*

SECTION B. POTENTIAL PRESENCE OF COVERED SPECIES AND/OR CRITICAL HABITAT (FOR STANDARD AND FRAMEWORK ACTIONS)

B.1. Does the Action Area for the Subapplicant's proposed project(s) have the potential to support covered species and/or does it contain Critical Habitat (i.e., the physical or biological features essential for the conservation of the species)? Please clearly indicate the appropriate response for each project or project site.

☐ **NO**

It has been determined that the Action Area occurs either:

- ☐ **a) Outside the range of any covered species, or**
- ☐ **b) Within the range of a covered species but outside of suitable habitat and outside Critical Habitat, or**
- ☐ **c) Within the range of a covered species but outside of suitable habitat and within Critical Habitat but lacks the physical or biological features essential for the conservation of the species.**

Go to B.2.

☒ **YES.**

Select the covered species and Critical Habitat that are present or potentially present within the Action Area for each project site(s), and indicate potential habitat usage within the Action Area of the Subapplicant's proposed project(s). Information regarding occupied watersheds, life history, and seasonal patterns of distribution may be found in NMFS recovery plans, critical habitat designations, and watershed-specific survey or status documents, if available.

NOTE: If the responses to the table vary across sites, include a copy of this table for each.

Site(s):				
Covered Species	**Within Species Range**	**Critical Habitat Present**	**Potentially Occupied**	**Life Stage Utilization/Season of Occupancy***
North American green sturgeon Southern DPS	☐	☐	☐	
Coho salmon Southern Oregon/Northern California Coast ESU	☐	☐	☐	
Coho salmon Central California Coast ESU	☐	☐	☐	
Steelhead Southern California DPS	☐	☐	☐	
Steelhead South-Central California Coast DPS	☐	☐	☐	

Steelhead Northern California DPS	☐	☐	☐	
Steelhead Central Valley DPS	☐	☒	☐	spawning (PCE 1), rearing (PCE 2), and migration (PCE 3) habitat
Steelhead Central California Coast DPS	☐	☐	☐	
Chinook salmon California Coastal ESU	☐	☐	☐	
Chinook salmon Central Valley Spring-run ESU	☐	☒	☐	spawning (PCE 1), rearing (PCE 2), and migration (PCE 3) habitat
Chinook salmon Sacramento River Winter-run ESU	☐	☐	☐	
Eulachon Southern DPS	☐	☐	☐	
Black abalone	☐	☐	☐	

*Describe the potential for various life stages to utilize the action area and the seasons in which they may be present.

B.2. Does the Subapplicant's proposed project(s) have the potential to affect[11] covered species and/or Critical Habitat (i.e., the physical or biological features essential for the conservation of the species) in the Action Area?

☐ **NO**

No Effect. FEMA has determined that implementation of the Subapplicant's proposed project would have no effects on covered species and/or Critical Habitat. If a No Effect determination has been made for the proposed project, complete Section D (for MSA compliance). Do not complete Section C. Go to Section D.

No further consultation with NMFS is required under the ESA.

☒ **YES (go to C.1)**

SECTION C. ESA EFFECT DETERMINATION(S) FOR COVERED SPECIES AND/OR CRITICAL HABITAT (STANDARD AND FRAMEWORK ACTIONS)

C.1. Please describe potential effects of the action from implementation of the Subapplicant's proposed project(s) in the Action Area. Refer to the NMFS PBO for a description of potential effects and, for Framework Actions, describe additional details as applicable.

a. Effects on Covered Species and Critical Habitat – check those that apply, indicate which project(s) or site(s) would be affected and in which manner, and add a discussion of the duration, severity, and species/habitat response of the effect, including the potential for take[12] to occur, and/or effects on specific physical and biological features of Critical Habitat.

☒ **Erosion, turbidity, and sedimentation -** CVSR Chinook salmon and CCV steelhead could be adversely affected if fuel reduction work were to result in disturbed soil originating from treated areas being introduced to nearby watercourses via increased erosion during storm runoff or as dust. However, due to the AMMs detailed below, any increases in suspended sediment concentrations in nearby waters that may result from the Proposed Action are expected to be insignificant and below levels that would elicit a behavioral or physical response in CVSR Chinook salmon or CCV steelhead.

☒ **Potential spills or hazardous materials -** The use of gas-powered equipment would introduce the potential for accidental spills of fuel, lubricants, hydraulic fluid, coolants, or other contaminants to occur. However, because work would not occur within 150 feet of streams identified as suitable CVSR

[11] 'Effects of the action' is defined as all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (50 CFR § 402.17).

[12] The term 'take' is defined as, to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (50 CFR § 402.02).

Chinook salmon or CCV steelhead habitat and given that AMMs designed to minimize the potential for adverse effects from hazardous materials spills to occur would be implemented, the potential for spill-related impacts on CVSR Chinook salmon or CCV steelhead habitat to result from implementation of the Proposed Action would be discountable.

☐ **Noise and sound exposure -**
☐ **Dewatering, capture, and relocation of fish -**
☐ **Temporary or permanent effects on migration or fish movement -**
☐ **Riparian habitat removal and/or degradation -**Given the setbacks defined in Section A.6, no work would occur in riparian areas.
☐ **Streambed, bank, and shoreline modification -**
☐ **Invasive species and pathogens -**
☐ **Loss or alteration of shallow water habitat -**
☐ **Loss or alteration of mid-channel habitat -**

b. Describe any other effects on Covered Species not discussed above, including beneficial effects.

c. Describe any other effects on Critical Habitat not discussed above, including beneficial effects. If there are adverse effects, quantify the area (in acres, square feet, etc.) of Critical Habitat affected.

<u>Note</u>: Please note that take (as defined under the ESA) of a Covered Species and/or adverse effects to Critical Habitat trigger an LAA determination.

C.2. Please use the check boxes to select the Avoidance and Minimization Measures (AMMs) from the NMFS PBO that are applicable and will be implemented by the Subapplicant to avoid and minimize effects. If any AMMs are <u>not</u> applicable, include a brief justification for exclusion.

NMFS PBO AMMs	Applicable Site(s) or Rationale for AMM Exclusion
☒ AMM-1: Erosion and Sedimentation Prevention Measures	AA
☐ AMM-2: Bank Stabilization* ***See Notes Below for Details***	NA. Work will not occur in water or on stream/creek/river banks.
☒ AMM-3: Dust Control Measures	AA
☒ AMM-4: Spill Control Planning	AA
☒ AMM-5: Spill Prevention and Pollution Control Measures	AA
☒ AMM-6: Equipment Inspection, Cleaning, and Maintenance	AA
☒ AMM-7: Fueling Activities	AA
☒ AMM-8: Equipment Staging	AA
☒ AMM-9: Materials Storage and Disposal	AA
☒ AMM-10: Fire Prevention	AA
☒ AMM-11: Waste Management	AA
☐ AMM-12: Work Involving Boats and Barges	NA. No in water work would be conducted for the Proposed Action.
☒ AMM-13: Work Area Designation to Minimize Disturbance	AA
☒ AMM-14: Access Routes and Staging Areas	AA
☒ AMM-15: Environmental Awareness Training for Construction Personnel	AA

☒ AMM-16: Biological Monitor	AA
☐ AMM-17: Fish Relocation	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-18: Pre-Construction Surveys and Relocation of Black Abalone	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-19: Timing of In-Stream Work	NA. No in water work would be conducted for the Proposed Action.
☒ AMM-20: Daily Work Hours	AA
☐ AMM-22: Water Quality Protection	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-23: Large Woody Material Placement	NA. No large woody material would be installed in or near streams as part of the project. Woody debris would be chipped and spread over the work areas and chips would be left where they fall. Other cut vegetation would either be chipped and scattered or piled and burned in accordance with local air quality standards and burn permit requirements, depending on site-specific conditions. If excessive debris is generated that cannot be addressed by the aforementioned methods, it would be hauled to a permitted facility for appropriate green waste disposal. Larger logs would be lifted out of the ROW onto trucks to be hauled off-site for disposal.
☐ AMM-24: Revegetation of Stream Banks	NA. Work will not occur in water or on stream/creek/river banks.
☐ AMM-25: Invasive Plants and Aquatic Species	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-26: Work below Mean Higher High Water	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-27: Avoidance of Submerged Vegetation	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-28: Minimization of shading by overwater structures	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-29: Fish Screening Criteria	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-30: Temporary Water Diversion and Dewatering	NA. No in water work would be conducted for the Proposed Action.
☐ AMM-31: Pile Driving Methods	NA. No pile driving would be conducted for the Proposed Action.

AMM 2: For projects that involve bank stabilization on streambanks, please indicate which of the bioengineering options described under AMM-2 would be implemented (e.g., d.1), along with a brief description.

Not applicable

List any additional Project Specific AMMs developed for the Project(s) or BMPs that would be incorporated into the Subapplicant's proposed project(s) to avoid and minimize adverse effects.

Staff dedicated to the work would receive training on stormwater pollution prevention and best management practices. A project-specific Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented. No vegetation clearing would be performed near streams, and setbacks from 25-feet up to 150-feet would be maintained from all streams, dependent upon stream class, as recommended by NMFS to FEMA during review of Debris Removal 2021 California Wildfires Emergency Consultation (DR-4610 and DR-4619). Site-specific BMPs and erosion controls, such as temporary silt fences and straw waddles, would be implemented where necessary.

C.3. Considering the potential effects of the proposed project(s) (Section C.1) along with the implementation of applicable AMMs from the NMFS PBO (Section C.2), is there potential for the Subapplicant's proposed project to result in take of a Covered Species, either through harassment (including capture) and/or injury/mortality, and/or adverse effect to at least one physical or biological feature of Critical Habitat?

☒ **NO**

FEMA has determined that the proposed project "May Affect, but is Not Likely to Adversely Affect" (NLAA) Covered Species or Critical Habitat. Complete Section C.7 (skip Sections C.4 through C.6) of this form. Take of individual(s) or adverse effects to Critical Habitat is not expected to occur. Incidental take resulting from this project will not be covered. FEMA will notify NMFS by submitting the completed ESA/MSA Review Form for the proposed project and request concurrence that the proposed project(s) be covered under the NMFS PBO as an NLAA project.

☐ **YES**

FEMA has determined that the proposed project "May Affect, and is Likely to Adversely Affect" (LAA) Covered Species or Critical Habitat and will request coverage from NMFS under the BO/ITS for ESA Section 7 compliance. Take of at least one Covered species or adverse effects to at least one physical or biological feature of Critical Habitat may occur. Complete Sections C.4 through C.7 of this form. FEMA will notify NMFS by submitting the completed ESA/MSA Review Form for the proposed project(s) and request that the proposed project(s) be covered under the NMFS PBO as an LAA project(s), which may include coverage under the Incidental Take Statement (ITS) in the NMFS PBO, if applicable.

C.4. Briefly describe how the potential effects of the Subapplicant's proposed project(s) may result in take through harassment, injury, and/or mortality. If pile driving is occurring, include an analysis of the distances over which noise thresholds (as described in the NMFS PBO) may be exceeded, if applicable. Please clearly indicate the appropriate response for each project or project site.

a. **Take by Harassment**

Not applicable

b. **Take by Injury/Mortality**

Not applicable

C.5. Check the applicable boxes and provide the amount of habitat disturbance resulting from the proposed project(s) as a take indicator, as described in the NMFS PBO. Please clearly indicate the appropriate response for each project or project site.

- ☐ **Construction-related disturbance of streambank and channel- linear feet**
- ☐ **Construction-related disturbance of estuarine/marine waters - acres**
- ☐ **Pile driving – distance to 150 dB RMS threshold in feet - and distance to 187/183 dB cumulative threshold in feet -**
- ☐ **Capture of juvenile fish during in-water work area isolation – complete next item**

With the input and review of a senior fisheries biologist or in coordination with NMFS, provide an estimate of take by harassment and take by injury/mortality[13] separately through capture and relocation. Include a brief statement of rationale for each estimate.

a. **Species 1 – Estimated Take by Harassment and Take by Injury/Mortality Separately**

b. **Species 2 – Estimated Take by Harassment and Take by Injury/Mortality Separately**

c. **(Add entries for additional Covered Species, if needed)**

Describe the methods that would be utilized to capture and relocate fish. Refer to AMM #17 of the NMFS PBO and NMFS standard practices for fish relocation, as needed.

[13] In the case of fish relocation (all relocated fish are taken by harassment), assume 10 percent of the relocated fish may sustain some injury.

NOTE: For projects that require fish rescue and relocation, the Subapplicant will develop a detailed fish relocation plan and FEMA will submit it to NMFS for approval prior to project implementation.

C.6. Are there any cumulative effects[14] from projects that do not have a Federal nexus that are anticipated from implementation of the Subapplicant's proposed project? If so, please describe them.

Not applicable

C.7. Provide a summary of FEMA's NLAA or LAA determination for Covered Species and Critical Habitat resulting from implementation of the Subapplicant's proposed project(s). List all the Covered Species and/or Critical Habitat that could be affected and summarize those effects as they are presented in this section. An ESA determination for each Covered Species and/or Critical Habitat is required. Please clearly indicate the appropriate response for each project or project site.

Species: (CCV Steelhead)

Determination Rationale for Species: Based on FEMA's evaluation, a determination of ***may affect, but is not likely to adversely affect*** applies to the CCV Steelhead for both the ROW Project and BCFSC Program because all project activities would be conducted in accordance with the stream setbacks previously described, and no work would be conducted within 150 feet of streams that constitute suitable habitat for CCV Steelhead. Additionally, AMMs 1, 3, 4, and 5, serve to discount potential CCV Steelhead impacts.

Determination Rationale for Critical Habitat: Based on FEMA's evaluation, a determination of ***may affect, but is not likely to adversely affect*** applies to the CCV Steelhead Critical Habitat for both the ROW Project and BCFSC Program because all project activities would be conducted in accordance with the stream setbacks previously described, and no work would be conducted within 150 feet of streams that constitute suitable habitat for CCV Steelhead. Additionally, AMMs 1, 3, 4, and 5, serve to discount potential CCV Steelhead Critical Habitat impacts.

Species: (CVSR Chinook Salmon)

Determination Rationale for Species: FEMA has determined that the ROW Project would have ***no effect*** on CVSR Chinook Salmon as they do not occur in the AA. The BCFSC Program ***may affect, but is not likely to adversely affect*** the CVSR Chinook Salmon because all project activities would be conducted in accordance with the stream setbacks previously described, and no work would be conducted within 150 feet of streams that constitute suitable habitat for CVSR Chinook Salmon. Additionally, AMMs 1, 3, 4, and 5, serve to discount potential CCV Steelhead impacts.

Determination Rationale for Critical Habitat: Based on FEMA's evaluation, a determination of ***may affect, but is not likely to adversely affect*** applies to the CVSR Chinook Salmon Critical Habitat for both the ROW Project and BCFSC Program because all project activities would be conducted in accordance with the stream setbacks previously described, and no work would be conducted within 150 feet of streams that constitute suitable habitat for CVSR Chinook Salmon. Additionally, AMMs 1, 3, 4, and 5, serve to discount potential CVSR Chinook Salmon Critical Habitat impacts.

[14] Cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR §402.02).

SECTION D. DETERMINATION OF EFFECTS TO ESSENTIAL FISH HABITAT PROTECTED UNDER MSA

D.1. Is Essential Fish Habitat (EFH)[15] present in the Action Area? Please clearly indicate the appropriate response for each project or project site.

☐ **NO**

FEMA has determined that the proposed project will have "No Adverse Effect" on EFH. No notification to NMFS is required under MSA. No further steps are needed.

☒ **YES**

Check the boxes for the EFH that is present in the Action Area, then complete D.2.

☒ **Pacific Coast Salmon EFH**
☐ **Pacific Coast Groundfish EFH**
☐ **Coastal Pelagic Species EFH**
☐ **Highly Migratory Species EFH**

List Habitat Areas of Particular Concern (HAPCs), if they are present in the Action Area(s):

None

D.2. Could the Subapplicant's proposed project(s) adversely affect EFH?

☒ **NO**

FEMA has determined that the proposed project will have "No Adverse Effect" on EFH. No notification to NMFS is required under MSA. No further steps are needed.

☐ **YES**

If there are any potential adverse effects on EFH that have not been described above in Section C, please list them here, then complete D.3.

[15] Essential Fish Habitat (EFH) is defined as waters and substrate necessary to complete the life cycle of species managed under a Federal Fishery Management Plan.

D.3. Are the AMMs listed in Section C.2 sufficient to minimize, mitigate, or otherwise offset adverse effects on EFH?

☐ **YES**

No additional AMMs are needed. FEMA has determined that the proposed project(s) "May Adversely Affect" EFH. FEMA will notify NMFS by submitting a completed ESA/MSA Review Form with details on the proposed project(s) and request that the proposed project be covered under the NMFS PBO to comply with MSA.

☐ **NO**

Please list any additional AMMs from the NMFS PBO along with any other BMPs implemented by the Subapplicant that would be incorporated into the Subapplicant's proposed project to minimize, mitigate, or otherwise offset adverse effects on EFH.

FEMA has determined that the proposed project(s) "May Adversely Affect" EFH. FEMA will notify NMFS by submitting a completed ESA/MSA Review Form with details on the proposed project and request that the proposed project be covered under the NMFS PBO to comply with MSA. NMFS may provide additional conservation recommendations to protect EFH pursuant to MSA §305 (b)(4)(A). The Subapplicant must confirm to FEMA that these additional conservation recommendations will be implemented, and FEMA will notify NMFS and request concurrence. Once NMFS concurs, MSA compliance is completed.

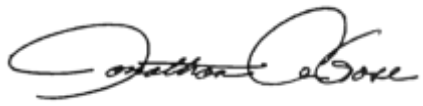
SECTION E. FOR NMFS TO COMPLETE AND SIGN

Project Name: Butte County – County Road Hazardous Fuels Reduction and BCFSC – Defensible Space and Hazardous Fuels Reduction Program

FEMA Grant # or Disaster and Project Worksheet #s: HMGP-4407-020-144 and 4407-497-056

I concur with FEMA's determination on federally listed species and Critical Habitat as described in this ESA/MSA Review Form, pursuant to Section 7 of the Endangered Species Act. NMFS agrees that this project qualifies for coverage under the NMFS Programmatic Biological Opinion (PBO) for FEMA's Disaster, Mitigation, and Preparedness Programs issued on 9/25/2018. Therefore, no further action pursuant to the Act is necessary for the proposed project unless new information reveals effects of the action that may affect listed species or Critical Habitat in a manner or to an extent not previously considered; the action is subsequently modified in a manner that causes an effect to the listed species or Critical Habitat that was not considered; or a new species is listed or Critical Habitat designated that may be affected by the identified action.

Signature is listed below:



12/15/23

Jonathan Ambrose **Date**
San Joaquin River Branch Chief
California Central Valley Area Office
National Marine Fisheries Service

SECTION F. FOR SUBAPPLICANT TO COMPLETE AND SIGN

On behalf of Butte County/BCFSC, I have read the requirements from FEMA's Programmatic Biological Opinion (PBO) with NMFS that are specific to the subject project and plan to implement them accordingly. I understand that failure to implement the required Avoidance and Minimization Measures may jeopardize funding for the subject project. Butte County/BCFSC accepts implementation of the required measures described in this ESA/MSA Review Form as a stipulation of funding for Butte County – County Road Hazardous Fuels Reduction, HMGP-4407-020-144 and BCFSC – Defensible Space and Hazardous Fuels Reduction Program, HMGP- 4407-497-056.

Signatures listed below:

_____	_____
Print and sign name **Butte County**	**Date**
_____	_____
Print and sign name **BCFSC**	**Date**

Mooretown Rancheria
#1 Alverda Drive
Oroville, CA 95966
(530) 533-3625 Office
(530) 533-3680 Fax

October 5 2023

Ms. Lisa Holm
Regional Environmental Officer
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Re: Proposed (Butte County Wildfire Mitigation Programs) Project -Butte Co, CA

Dear Ms. Holm:

Thank you for your letter dated, September 18, 2023, regarding the proposed Butte County Wildfire Mitigation Programs project in Butte County, California. Mooretown Rancheria is interested in furthering consultation regarding this Proposal. Based on the information provided, Mooretown Rancheria would like to discuss ways of participating in the BCWMP.

THPO
Matthew.hatcher@mooretown.org

Thank you for providing us with this notice and opportunity to comment.

Sincerely,

Matthew Hatcher
Tribal Historic Preservation Officer

Woodruff, Abbie M.

From: Holm, Lisa <lisa.holm@fema.dhs.gov>
Sent: Thursday, September 21, 2023 4:46 PM
To: Woodruff, Abbie M.
Cc: Lea, Claudia; Shauna Mundt; Anmarie Medin
Subject: FW: Butte County Wildfire Mitigation Programs (HMGP-4407-020-144 / HMGP-4407-497-056)

Hi Abbie,

This is the first response I have received so far. If you could please add it to the project file? Thanks,

Lisa Holm
Senior Environmental Protection Specialist / Archaeologist
Environmental & Historic Preservation | FEMA Region IX
Mobile: (202) 803-3839
lisa.holm@fema.dhs.gov | Pronouns: she/her

Federal Emergency Management Agency
fema.gov

From: K McHenry <kmchenry@mechoopda-nsn.gov>
Sent: Thursday, September 21, 2023 2:20 PM
To: Holm, Lisa <lisa.holm@fema.dhs.gov>
Subject: Butte County Wildfire Mitigation Programs (HMGP-4407-020-144 / HMGP-4407-497-056)

Good afternoon Lisa,

On Behalf of the Mechoopda Indian Tribe of the Chico Rancheria (“Tribe”), We hereby Submit the following comments to express the Tribe’s concerns related to the impacts to sacred places, properties and features of religious, ceremonial and cultural significance to the Tribe with regard to the above-referenced project (“Project”)

The Project site lies within the ancestral lands of the Tribe. The Project location and surrounding landscape have long been considered as having cultural, historical, and religious significance for the Tribe. It is undisputed that there is a high sensitivity to the Project site bases on recordings in the area and Tribal knowledge. The Tribe has a deep and abiding cultural and spiritual attachment to their ancestral landscape, which includes and extends beyond the Tribes formal boundaries, including the Project site.

The Tribe’s goal is simple and Clear: ensure the careful and complete implementation of all statutory and regulatory mechanisms for protecting cultural and historical resources to protect tribal cultural and historical resources that may be impacted by the Project.
We look forward to working with you on this matter.

Sincerely,

Kyle McHenry
Tribal Historic Preservation Officer
Mechoopda Indian Tribe of Chico Rancheria
1920 Alcott Ave.
Chico, CA. 95928
P: 530.899.8922 ext.203
F: 530.899.8517
Email Address: