EPP v. 2.0, 11/24/2021

California Environmental Protection Agency (Cal EPA)
and
California Natural Resources Agency (CNRA)

2021 Statewide Fires – Environmental Protection Plan

1.0 Purpose

This document comprises the Environmental Protection Plan (EPP) to support Private Property Debris Removal (PPDR) program (inclusive of related non-utility hazard tree removal) for the 2021 Statewide Fires identified in the Governor's Executive Order N-13-21 (EO). The EO authorizes the suspension of state statutes with "Emergency Suspensions (Suspensions)" authorized by the California Environmental Protection Agency (Cal EPA) and California Natural Resources Agency (CNRA) Secretaries to expedite the recovery of the counties impacted by the fires. This EPP is the basis for each Agency Secretary to authorize Environmental Suspensions for the performance of the PPDR and non-utility hazard tree removal activities (hereafter, 'Debris Removal activities').

The purpose of the EPP is to document how the Debris Removal activities will be managed to comply with applicable environmental laws and regulations by implementing Post Fire Statewide Best Management Practices (BMPs) developed by Cal EPA (State Water Resources Control Board and Regional Water Quality Control Boards (Water Boards)) and CNRA (i.e., California Department of Fish and Wildlife (CDFW), California Department of Forestry and Fire Prevention (CALFIRE)). In accordance with the EO and each agency's statutory responsibilities, separate documents (Attachments 1 and 2) were prepared that summarize each agency's BMPs to ensure Debris Removal activities can be expedited and conform to applicable resource laws and regulations.

In addition, this EPP recognizes other state and federal agencies who have regulatory responsibilities for natural and cultural resources within the 2021 Wildfire burn scars, including the Tahoe Regional Planning Agency (TRPA) and Federal Emergency Management Agency (FEMA) for which Attachments 3 and 4 have been developed to enable compliance with their jurisdictional authorities. This EPP is considered a live document that may be modified to include additional 2021 Wildfires and BMPs in Addenda as may be defined by the Cal EPA, CNRA, TRPA, and FEMA. Any Local, State, or Federal Regulatory Authority has the right to inspect the project area (any portion of the burn area to which the EPP applies), following

the rules of a landowner's Fourth Amendment Rights. The Incident Management Team (IMT) the Rights of Entry (ROE) that are required prior to accessing private properties for the Debris Removal activities will be kept by the IMT in an electronic database. This database will also serve as a means for the regulatory agencies to see what work is being conducted in their jurisdictional areas and decide if this is an activity that would require their inspection or closer oversight.

The TRPA is a bi-state agency (California and Nevada) that through the bi-state Tahoe Regional Planning Compact (Compact), TRPA reviews all activities undertaken within the Tahoe Basin that affect its environmental quality. The Caldor Fire, one of the 2021 Wildfires addressed in the EO is also subject to the FEMA Major Disaster, DR 4619. TRPA works in concert with other agencies in the Basin to ensure the protection, among other subjects of water and air quality. The TRPA has Memorandum of Understanding with federal, state, and local agencies and entities to streamline project permitting, including exempting many activities provided those activities are undertaken consistent with TRPA's Handbook of Best Management Practices; those relevant to the EPP are contained in Attachment 3.

The Federal Emergency Management Agency (FEMA) is the lead agency for federally declared major disasters, such as DR 4619 for the Caldor Fire. Consultations for DR 4619 with the US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) are the responsibility of FEMA for Debris Removal activities to address the federal Endangered Species Act Section 7. Through this consultation, Avoidance and Minimization Measures (AMMs) will be determined for federally declared disasters associated with EO N-13-21. The AMMs are expected to be based on FEMA's Programmatic Agreements with these agencies for disasters in California and are contained in Attachment 4 for reference. FEMA is also leading the National Historic Preservation Act (NHPA) Section 106 consultations for DR 4619 to address the protection of cultural resources and tribal consultations for which there is a Programmatic Agreement between FEMA, Cal OES and SHPO which is also contained in Attachment 4.

This EPP does not apply to Debris Removal activities for which local agency permits may be required for project support facilities, including, but not limited to: contractor basecamps; temporary storage, pre-processing, and processing facilities; material laydown areas; temporary heliports and operation yards; and equipment maintenance yards. The local agencies for each of the counties will administer the California Environmental Quality Act (CEQA) and California Planning and Zoning Laws when reviewing applications for construction or conditional use permits for these facilities.

Coordination with the local agencies is required to determine their permit requirements and CEQA review process. Often, but not always, disaster recovery activities may be considered exempt from CEQA. Cases where CEQA may not be exempt include temporary storage, pre-processing, and processing facility sites, as these land uses may require review for local zoning designation compatibility.

Failure to comply with the AMMs and BMPs set forth in the EPP, and with any applicable federal and non-suspended state and local environmental laws and regulations, may result in an enforcement action by Cal EPA departments and/or CNRA departments. Please note

that applicable environmental laws and regulations may be suspended. (See the Emergency Suspensions issued by Cal EPA and CNRA for a list of suspended environmental laws and regulations). Federal and state environmental laws and regulations that have been considered applicable and are included by reference in this EPP are summarized below:

Federal

- Clean Water Act (CWA), e.g., Section 401, United States Environmental Protection Agency (USEPA)/State Water Resources Control Board (SWRCB)water quality certification; Sections 301 and 402, National Pollutant Discharge Elimination System (NPDES)/Storm Water Pollution Prevention Plan (SWPPP); Section 404, fill and wetlands, U.S. Army Corps of Engineers (USACE),
- Endangered Species Act (ESA, e.g., Section 7, USFWS, and the NMFS),
- Magnuson-Stevens Act (MSA), Migratory Bird Treaty Act (USFWS),
- Bald and Golden Eagle Protection Act (USFWS and CDFW),
- National Historic Preservation Act (e.g., Section 106), FEMA, California State Historic Preservation Officer (SHPO), and federally recognized tribes,
- Resource Conservation and Recovery Act (RCRA, e.g., Subtitle D - Non-Hazardous Waste for Timber and BioMass disposal; Subtitle C – Episodic Generator Provision, USEPA),
- National Emission Standards for Hazardous Air Pollutants (NESHAP), and
- National Environmental Policy Act (NEPA, FEMA).

State

- Porter-Cologne Water Quality Act (California Water Code sections 13000 et seq.)
- Endangered Species Act (California Fish and Game Code §2050-2115.5),
- California Fish and Game Code (CFGC) Section 1600 (e.g., Lake and Streambed Alteration Agreement), CDFW),
- California Migratory Bird Protection Act (CFGC Section 3513, CDFW),
- California Clean Air Act (CCAA),
- California Native American, Historical, Cultural and Sacred Sites Act ('Sacred Sites Act', SHPO, and FEMA/Cal OES tribal Liaison),
- E.O. B 10-11 (California Native Tribal Consultation),
- AB-52, Gatto. Native Americans CEQA Consultation,
- Z'Berg-Nejedly Forest Practice Act (2021 California Forest Practice Rules (FPR), CAL FIRE)
- Native Plant Protection Act (CFGC Section 1900 et seq.), and
- Airborne Toxic Control Measure (ATCM) of 2007.

Regional

- Tahoe Regional Planning Compact Pub.L. 96-551 (1980); Cal. Gov. Code Section 66801.

Prior to the commencement of Debris Removal activities, a training program will be delivered to contractors and consultants undertaking the work. Only those that have evidence of completing the training will be allowed to work on active sites.

Attachment 1

California Environmental Protection Agency (Cal EPA)
State Water Resources and Regional Water Quality Control Boards (Water Board)
California Air Resources Board (CARB)

2021 Statewide Fires –Environmental Protection Plan

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California Environmental Protection Agency (Cal EPA)
State Water Resources and Regional Water Quality Control Boards (Water Board)
California Air Resources Board (CARB)

Post Fire Statewide Best Management Practices

Contents

1.0 Introduction

This document summarizes statewide Best Management Practices (BMPs) for the California Environmental Protection Agency, State Water Resources Control Board and Regional Water Quality Control Boards (California Water Boards or Water Boards). The BMPs are topic-specific codes have been established for each of the BMP subjects for ease of reference in the Private Property Debris Removal Program (PPDR) for the Debris Removal Operation Center (DROC) for the 2021 Wildfires. This document is organized to summarize the Water Boards' BMPs in Sections 2.0 through 5.0.

2.0 Operational Requirements for All Work Areas

2.1 Porter-Cologne Water Quality Control Act (Water Code)

2.1.1 Discharge of Waste. Per Water Code section 13050(d) "Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for the purposes of, disposal.

2.1.2 Waters of the State. Per Water Code section 13050(e), "waters of the state" means any surface or groundwater, including saline waters, within the boundaries of the state.

2.1.3 Pollution. Per Water Code section 13050(i), "Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects beneficial uses.

2.1.4 Non-Degradation. Neither this Environmental Protection Plan (EPP) or the Secretarial Suspension authorizes activities that will cause or threaten to cause discharges of waste to waters of the state in a manner that creates pollution.

2.1.2 Reasonable Access for Inspection. Reasonable access to the property shall be provided whenever requested by California Water Boards staff for the purpose of performing inspections and conducting monitoring, including sample collection, measuring, and photographing/taping to determine proper implementation of management practices. Management practices and water quality protective measures required by regional board staff as a result of such inspections shall be incorporated into the project.

2.1.3 Permitting. Work requiring coverage under waste discharge requirements or a water quality certification issued by the State Water Resources Control Board or regional water quality control boards (collectively, Water Boards) that is not otherwise within the scope of an approved Agency Secretary Environmental Suspension may not begin until such coverage is obtained. National Pollution Discharge Elimination System (NPDES) permitting requirements, such as the following, cannot be suspended and may apply to debris or hazard tree removal activities:

2.1.3.1 Construction Stormwater Permit Coverage. Coverage under the State Water Resources Control Board's General Permit for Discharges of Stormwater Associated

with Construction Activity, Order 2009-0009-DWQ (Construction General Permit, CGP) is required when a project creates a soil disturbance of one acre or more. Coverage is also required for projects with less than one acre of soil disturbance that are part of a larger plan of development that collectively disturbs one acre or more. Construction activity subject to this permit includes clearing, grading, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. Compliance with the CGP requires electronic submittal of permit registration documents including a Stormwater Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP). The CGP requires implementation, monitoring, and maintenance of adequate sediment and erosion control Best Management Practices (BMPs), and certain monitoring and reporting activities. Many California Professional Engineers have a self-certification that qualifies them as a QSD/QSP. In addition, the California Stormwater Quality Association (CASQA) has a lookup tool to find licensed QSD/QSPs. More information is available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html. More information on US EPA standards here: National Management Measures to Control Nonpoint Source Pollution from Urban Areas, November 2005, EPA-841-B-05-004 and here: Urban Runoff: National Management Measures | US EPA

2.1.3.2 Industrial Stormwater Permit Coverage. Coverage under the State Water Resources Control Board's General Permit for Stormwater Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit, IGP) is required when a project includes certain industrial activities. In the case of post-fire debris removal and hazard tree removal, these include scrap and waste materials storage, sorting, and handling of soil, concrete, metals, vehicles, wood, and vegetation; log storage and handling associated with chipping, grinding, or sawmilling; and maintenance of vehicles and equipment. Further determination of IGP applicability should be discussed with a Regional Water Board representative identified below. Compliance with the IGP requires electronic submittal of permit registration documents including a Stormwater Pollution Prevention Plan (SWPPP), implementation, monitoring, and maintenance of adequate Best Management Practices (BMPs), and certain monitoring and reporting activities. In some cases, a Qualified Industrial Stormwater Practitioner (QISP) is required to design and implement the SWPPP, perform facility evaluations, prepare response plans, and produce reports. Many California Professional Engineers have a self-certification that qualifies them as a QISP. In addition, the California Stormwater Quality Association (CASQA) has a lookup tool to find licensed QISPs. More information is available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html. More information on US EPA standards here: National Management Measures to Control Nonpoint Source Pollution from Urban Areas, November 2005, EPA-841-B-05-004 and here: Urban Runoff: National Management Measures | US EPA

3.0 Hazard Tree Removal Activities

3.1 Hazard Tree Removal Sites in Forested Areas (Compliance with Forest Practice Act)

3.1.1 Saturated Soil Conditions. Operations will be limited or halted in saturated conditions as determined by the Operations Chief or RPF. Per CCR section 895.1 definitions, "Saturated Soil Conditions," means that soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. Indicators of Saturated Soil Conditions may include but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing material during Timber Operations, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials.

3.1.2 Tree Felling. To the fullest extent possible and with due consideration given to topography, lean of trees, landings, utility lines, local obstructions, and safety factors, per Forest Practice Rules (FPR) sections 914.1, 934.1, and/or 954.1 trees shall be felled in a manner that avoids bridging watercourses. In the event trees cannot be jacked and /or pulled away from a watercourse, the felled tree(s) shall be removed as soon as possible, and watercourses restored thereafter.

3.1.3 Shade-Producing Canopy. Trees within the riparian zone that are not deemed a hazard shall be retained to maintain shade-producing canopy to the maximum extent practicable. Please consult with the appropriate regional water board if there are questions about maintaining shade-producing canopy. Operators will comply with FPR sections 916.9, 936.9, and/or 956.9.

3.1.4 Water drafting locations. All water drafting locations shall include appropriate BMPs to prevent sediment discharge from disturbed areas, vehicle tracking, or overtopping to receiving waters. Such locations shall also install appropriate BMP's to prevent petroleum products from entering the waterbody. Pump intakes shall be screened to prevent entrapment of aquatic species. Consultation with relevant federal, state, and local agencies shall occur before initiating drafting activities.

3.1.5 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post disturbance activities. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization. At staging areas and processing sites, Construction and/or Industrial Stormwater permits administered by the California Water Boards may be required. Generally, a stormwater permit is required for soil disturbances of one acre or more (where the CWA section 404 silviculture exemption does not apply), or when part of a larger plan of development.

3.1.6 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

3.1.7 Mapping. The contractor shall map out the placement of BMPs, to be kept in the Environmental Tree Removal Data Management System, to account for where they have been placed, what type, and how much material was used.

3.2 Access Road Construction, Maintenance, Deconstruction in Forested Environment (Compliance with Forest Practice Act)

3.2.1 Winter Period Operations. Winter period is defined as November 15 through April 1 each year. If road and landing construction/reconstruction operations are planned during the winter period where such activities could negatively impact water quality, consult with the appropriate regional board office before commencing work. Note that erosion control BMPs must be installed consistent with FPR section 916.9, 936.9, and/or 956.9(n)(1-7) in watersheds containing listed anadromous salmonid habitat (October 15 through May 1).

3.2.2 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post disturbance activities. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization.

3.2.3 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

3.2.4 Sediment and Erosion Control Measures. Biodegradable sediment and erosion control measures will be utilized throughout all phases of operation where sediment runoff from work areas threatens to enter receiving waters. If there is a 30 percent chance of a rain event within 24 hours, sediment, and erosion control BMPs shall be inspected (before and after the event), and repaired, or upgraded and maintained to prevent sediment-laden runoff. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged silt fencing, compost socks, coir logs, coir rolls, and/or straw bale dikes. Modifications, repairs, and improvements shall be made to the sediment and erosion control measures whenever warranted.

Materials used in the sediment barriers shall not pose an entanglement risk to fish or wildlife (e.g., plastic monofilament netting).

3.2.5 Revegetation Requirements. If required, because of agency consultation, or by an applicable Construction Stormwater permit, disturbed areas shall be revegetated with native species suitable to the restoration activity such as the decommissioning of an access road leading to a temporary crossing. (See NMFS-9b)

3.2.6 Access Prevention Barricades. Barricades shall be constructed at all points of access to the decommissioned, deactivated, or abandoned road to effectively prevent use by any passenger vehicle, off road vehicle or other equipment.

3.2.7 Water drafting locations. All water drafting locations shall include appropriate BMPs to prevent sediment discharge from disturbed areas, vehicle tracking, or overtopping to receiving waters. Such locations shall also install appropriate BMPs to prevent petroleum products from entering the waterbody. Pump intakes shall be screened to prevent entrapment of aquatic species. Consultation with relevant federal, state, and local agencies shall occur before initiating drafting activities.

3.2.8 Coordination with area involved water systems. All activities necessitating the use of area water, such as, and not limited to dust suppression, cleaning, washing, sweeping, and irrigation, shall be coordinated with the area involved water system to avoid any potential conflicts. All activities that may affect, impede, or impact the ability of the area involved water system from executing their duties shall be coordinated with the area involved water system to avoid any potential conflicts.

3.3 Stream crossings (Temporary and Permanent)

3.3.1 WB-2c - Consultation. Contractors shall consult with the US Army Corps of Engineers, CDFW, and appropriate regional board before any new permanent watercourse crossing, staging area, or processing area is constructed (or when an existing watercourse crossing requires repair) in or adjacent to a Water of the United States.

3.3.2 WB-2a - New Permanent Watercourse Crossings. Should construction of permanent watercourse crossings be necessary, the contractor shall consult with the appropriate regional board in advance to determine conformance with permitting requirements outlined in the Agency Secretary Environmental Suspension. At a minimum, permanent watercourse crossings shall be designed and constructed to accommodate the estimated 100-year flood flow, including debris and sediment loads (considerations are outlined in Title 14 CCR sections 923.9, 943.9, and 963.9).

3.3.3 WB-2b –Temporary Watercourse Crossings. Temporary watercourse crossings shall be installed and removed outside of the winter period (defined as November 15 through April 1) as feasible, installed and used when water is not flowing, and removed and stabilized immediately after debris and hazard tree removal work has been completed. No temporary crossings shall be constructed where flow and aquatic species passage is obstructed during the period of use.

3.3.4 Installation of Temporary Crossings and Water Flow. The installation of temporary bridges, culverts or other structures shall be installed such that water flow is not impaired and upstream or downstream passage of fish and all aquatic life-forms is always assured. Temporary crossings shall be removed prior to the winter period. If structures and associated materials are not designed to withstand high seasonal flows, they shall be removed before such flows occur.

3.3.5 Damaged Watercourse Crossing Structures. Culverts or other watercourse crossing structures damaged by the contractor during work to such an extent as to impair functionality shall be repaired or replaced expeditiously. The contractor shall notify the appropriate regional board before initiating repairs as certain design standards or permitting requirements may apply.

3.3.6 Equipment in Watercourse. If equipment must cross an established watercourse or wet crossing, non-rubberized and/or heavy equipment will not enter waters of the United States without express permission from US Army Corps of Engineers, NOAA National Marine Fisheries Service (NMFS), the California Water Boards, and the relevant Federal or State Department of Fish and Wildlife. The contractor shall notify the appropriate regional board before initiating in-water work.

3.3.7 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post disturbance activities. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization.

3.3.8 Sediment and Erosion Control Measures. Biodegradable sediment and erosion control measures will be utilized throughout all phases of operation where sediment runoff from work areas threatens to enter receiving waters. If there is a 30 percent chance of a rain event within 24 hours, sediment, and erosion control BMPs shall be inspected (before and after the event), and repaired, or upgraded and maintained to prevent sediment-laden runoff. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged silt fencing, compost socks, coir logs, coir rolls, and/or straw bale dikes. Modifications, repairs, and improvements shall be made to the sediment and erosion control measures whenever warranted. Materials used in the sediment barriers shall not pose an entanglement risk to fish or wildlife (e.g., plastic monofilament netting).

3.3.9 Silt Barriers. If work on crossings within a wetted stream, lake, or wetland must occur, precautions to minimize turbidity and siltation shall be employed and may require the placement of geotextile fabrics, silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches of the receiving water. Equipment shall be placed on swamp mats, where the ground is soft. Materials used in the silt barrier shall not pose an entanglement risk to fish or wildlife (no plastic monofilament netting). The

Contractor shall consult with the appropriate regional board before placing in-stream materials.

3.3.10 Removal of Silt from Barriers. Silt collected from silt barriers shall be removed on an as needed basis to prevent silty/turbid water from flowing around the silt barriers during storm events. Silt barriers which trap sediment shall be removed when temporary crossings are removed. Silt barriers used through the winter period should be inspected and maintained regularly or removed altogether if storm flooding would dislodge and discharge barrier materials downstream. The stream shall then be restored to its natural condition. This work may require a permit from the US Army Corps of Engineers, CDFW, or the appropriate regional water board. Consultation is required before removing in-stream materials.

3.3.11 Watercourse Bank Stabilization. Bank stabilization features will be constructed with suitable non-erodible materials that will be installed in order to withstand wash out during high flows. Bank stabilization materials will extend above the ordinary high-water mark. Only wildlife-friendly, 100 percent biodegradable erosion and sediment control products that will not entrap or harm wildlife shall be used. Erosion and sediment control products shall not contain synthetic (e.g., plastic or nylon) netting. Photodegradable synthetic products are not considered biodegradable. Rock riprap and bank armoring shall only be done in consultation and with prior approval from the US Army Corps of Engineers, CDFW, or the appropriate regional water board. Only clean material such as rock riprap that is free of trash, debris and deleterious material shall be used in bank stabilization. Use of materials containing asphalt and/or concrete is prohibited.

3.3.12 Crossing Fill Materials. To minimize turbidity or siltation in receiving temporary crossings shall be constructed with washed 2–6-inch pit run rock, screened river gravels, washed 2-inch plus rock or gravel, and/or logs in fill materials whenever feasible. Bridge abutments below the high-water mark shall be rock. Where a temporary crossing using fill material is removed, the channel shape and gradient shall be returned to pre-project condition and stabilized to the extent feasible; any adjacent bare soil shall be stabilized by mulching or other effective method.

3.3.13 Recreate Channel Grade During Crossing Removal. During crossing removal, all fill material shall be excavated in a manner that recreates the natural channel grade and orientation, leaving a channel bed that is as wide as or slightly wider than the original watercourse.

3.3.14 Stabilize and Inspect Decommissioned/Deactivated and Abandoned Roads and Crossings. Decommissioning/deactivation/abandonment of roads and crossings shall be conducted in a manner that ensures stabilization before the winter period (November 15). If work occurs during the winter period or if there is a 30 percent chance of a rain event within 24 hours, sediment and erosion control shall be installed before and inspected after the rain event. Areas exhibiting erosion with the potential to transport sediment to receiving waters shall be repaired with applicable BMPs, and then inspected following a runoff event after soils reach saturation.

3.3.15 Stabilize Crossing Sites. All bare mineral soil exposed in conjunction with crossing construction, deconstruction, maintenance, or repair, shall be treated for erosion

immediately upon completion of crossing work, and prior to the onset of precipitation capable of generating runoff. Erosion control BMPs shall be used as specified to stabilize the approaches and bank of the watercourse. If the site is seeded, native species, or a sterile seed mix and mulch should be used to the extent feasible.

3.3.16 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

3.4 Hazard Tree Removal Sites in Non-Forested Areas (not covered under Forest Practice Act)

3.4.1 WB-1b – Permits. Work requiring coverage under a permit issued by the California Water Boards that is not otherwise within the scope of an approved Agency Secretary Environmental Suspension, including any necessary permits under section 402 of the Clean Water Act regulating discharges to waters of the United States, may not begin until such coverage is obtained.

3.4.2 Winter Period Operations. Winter period is defined as November 15 through April 1 each year. If road and landing construction/reconstruction operations are planned during the winter period where such activities could negatively impact water quality, consult with the appropriate regional board office before commencing work.

3.4.3 Saturated Soil Conditions. Operations will be limited or halted in saturated conditions as determined by the Operations Chief or RPF. Per CCR 895.1 definitions, "Saturated Soil Conditions," means that soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. Indicators of Saturated Soil Conditions may include but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing material during Timber Operations, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials.

3.4.4 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post disturbance activities. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization. At staging areas and processing sites, Construction and/or Industrial Stormwater permits administered by the California Water Boards may be required. Generally, a stormwater permit is required for soil disturbances of one acre or more (where the CWA section

404 silviculture exemption does not apply), or when part of a larger plan of development.

3.4.5 Tree Felling. To the fullest extent possible and with due consideration given to topography, lean of trees, landings, utility lines, local obstructions, and safety factors, trees shall be felled in a manner that avoids bridging watercourses. In the event trees cannot be jacked and / or pulled away from a watercourse, the felled tree(s) shall be removed as soon as possible, and watercourses restored thereafter.

3.4.6 Shade-Producing Canopy. Trees within the riparian zone that are not deemed a hazard shall be retained to maintain shade-producing canopy to the maximum extent practicable. Please consult with the appropriate regional water board if there are questions about maintaining shade-producing canopy. Operators may be required to adhere to FPR 916.9, 936.9, and/or 956.9.

3.4.7 Water drafting locations. All water drafting locations shall include appropriate BMPs to prevent sediment discharge from disturbed areas, vehicle tracking, or overtopping to receiving waters. Such locations shall also install appropriate BMP's to prevent petroleum products from entering the waterbody. Pump intakes shall be screened to prevent entrapment of aquatic species. Consultation with relevant federal, state, and local agencies shall occur before initiating drafting activities.

3.4.8 Coordination with area involved water systems. All activities necessitating the use of area water, such as, and not limited to dust suppression, cleaning, washing, sweeping, and irrigation, shall be coordinated with the area involved water system to avoid any potential conflicts. All activities that may affect, impede, or impact the ability of the area involved water system from executing their duties shall be coordinated with the area involved water system to avoid any potential conflicts.

3.4.9 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

3.4.10 Mapping. The contractor shall map out the placement of BMPs, to be kept in the Environmental Tree Removal Data Management System, to account for where they have been placed, what type, and how much material was used.

3.5 Staging Area Requirements (areas used to stockpile logs, slash, or related debris for transport to processing facility)

3.5.1 Permit coverage. Construction and operation of staging areas and processing sites may require Construction and/or Industrial Stormwater Permits issued by the appropriate regional water board. Permit type and permitting requirements are determined based on site-specific characteristics and proposed use. Consultation with the appropriate regional water board is required prior to construction.

3.5.2 Sediment and Erosion Control Measures. Biodegradable sediment and erosion control measures will be utilized throughout all phases of operation where sediment runoff from work areas threatens to enter receiving waters. If there is a 30 percent chance of a rain event within 24 hours, sediment, and erosion control BMPs shall be inspected (before and after the event), and repaired, or upgraded and maintained to prevent sediment-laden runoff. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged silt fencing, compost socks, coir logs, coir rolls, and/or straw bale dikes. Modifications, repairs, and improvements shall be made to the sediment and erosion control measures whenever warranted. Materials used in the sediment barriers shall not pose an entanglement risk to fish or wildlife (e.g., plastic monofilament netting).

3.5.3 Ground disturbance and creation of areas bare of vegetation. Work shall be planned to minimize ground disturbance activities and to prevent discharge of sediment to receiving waters. Generally, where ground disturbance is larger than one acre, a Construction Stormwater permit may be required. Consult with the applicable regional water board before conducting work in instances where large ground disturbance activity is likely to occur.

3.5.4 Staging Areas and Processing Sites. Construction and/or industrial stormwater permits may be required for staging areas and/or processing sites. Should stormwater permits be required, the designated contractors' Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer (QSD) shall develop a SWPPP and implement it as appropriate. Other construction activities not requiring a stormwater permit but having the potential to discharge sediment to receiving waters, shall contain sufficient sediment and erosion control Best Management Practices (BMPs) to mitigate discharge of sediment to receiving waters. Contractors shall, at a minimum, include the following protective measures:

3.5.4.1 Operating Equipment and Vehicle Leaks. Equipment shall not be stored within 50 feet of a stream, lake, or wetland. Any equipment or vehicles driven, operated, or adjacent to a WLPZ shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic life or riparian habitat.

3.5.4.2 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located in or adjacent to the stream/lake shall be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Crews will always maintain spill containment kits on-site during project operations and/or staging or fueling of equipment.

3.5.4.3 Equipment Maintenance and Fueling. No equipment maintenance, fueling or storage will occur within or adjacent to, any stream channel, wetland, or lake margin where petroleum products or other pollutants from the equipment may enter these areas.

3.5.4.4 No Dumping. No litter or construction debris shall be deposited within a stream or lake, or where it may pass into a stream or lake. All debris and waste shall be removed daily. All trash cans and dumpsters shall remain covered except when in use and covered at the end of each workday.

3.5.4.5 Sawdust and other non-hazardous wastes. Sawdust, soil, silt, clay, rock, felled trees, slash, sawdust, bark, and ash shall be controlled in such a manner that it does not enter a watercourse and where feasible, not stored within 25 ft of a watercourse.

3.5.4.6 Hazardous Materials. Materials such as debris, ash, rubbish, creosote-treated wood products, cement/concrete, or washings thereof, asphalt, pesticides, paint or other coating material, petroleum products, and batteries can be hazardous to aquatic life, wildlife, or riparian habitat. Hazardous materials associated with project related activities shall be handled, transported, and stored in a manner that prevents materials from contaminating underlying soils and/or entering any watercourse.

3.5.5 Water drafting locations. All water drafting locations shall include appropriate BMPs to prevent sediment discharge from disturbed areas, vehicle tracking, or overtopping to receiving waters. Such locations shall also install appropriate BMPs to prevent petroleum products from entering the waterbody. Pump intakes shall be screened to prevent entrapment of aquatic species. Consultation with relevant federal, state, and local agencies shall occur before initiating drafting activities.

3.5.6 Coordination with area involved water systems. All activities necessitating the use of area water, such as, and not limited to dust suppression, cleaning, washing, sweeping, and irrigation, shall be coordinated with the area involved water system to avoid any potential conflicts. All activities that may affect, impede, or impact the ability of the area involved water system from executing their duties shall be coordinated with the area involved water system to avoid any potential conflicts.

3.5.7 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

3.6 Processing Facility Requirements (temporary facilities constructed for the purpose of processing woody debris and logs for shipment to log mills or cogeneration facilities)

3.6.1 Permit coverage. Construction and operation of Staging Areas and Processing Sites may require Construction and/or Industrial Stormwater Permits issued by the appropriate regional water board. Permit type and permitting requirements are determined based on site-specific characteristics and proposed use. Consultation with the appropriate regional water board is required prior to construction.

3.6.2 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. *All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post disturbance activities*. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization. At staging

areas and processing sites, Construction and/or Industrial Stormwater permits administered by the California Water Boards may be required. Generally, a stormwater permit is required for soil disturbances of one acre or more (where the CWA section 404 silviculture exemption does not apply), or when part of a larger plan of development.

3.6.3 Sediment and Erosion Control Measures. Biodegradable sediment and erosion control measures will be utilized throughout all phases of operation where sediment runoff from work areas threatens to enter receiving waters. If there is a 30 percent chance of a rain event within 24 hours, sediment, and erosion control BMPs shall be inspected (before and after the event), and repaired, or upgraded and maintained to prevent sediment-laden runoff. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged silt fencing, compost socks, coir logs, coir rolls, and/or straw bale dikes. Modifications, repairs, and improvements shall be made to the sediment and erosion control measures whenever warranted. Materials used in the sediment barriers shall not pose an entanglement risk to fish or wildlife (e.g., plastic monofilament netting).

3.6.4 Trenching / Excavation /Grading Spoils. As required by an applicable permit, castings or spoils from the trenching / excavation operations shall be placed in a location where it cannot enter a watercourse and will have erosion control measures applied.

3.6.5 Ground disturbance and creation of areas bare of vegetation. Work shall be planned to minimize ground disturbance activities and to prevent discharge of sediment to receiving waters. Generally, where ground disturbance is larger than one acre, a Construction Stormwater permit may be required. Consult with the applicable regional water board before conducting work in instances where large ground disturbance activity is likely to occur.

3.6.5 Staging Areas and Processing Sites. Construction and/or industrial stormwater permits may be required for Staging Areas and Processing Sites. Should stormwater permits be required, the designated contractors' Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer (QSD) shall develop a SWPPP and implement it as appropriate. Other construction activities not requiring a stormwater permit but having the potential to discharge sediment to receiving waters, shall contain sufficient sediment and erosion control Best Management Practices (BMPs) to mitigate discharge of sediment to receiving waters. Contractors shall, at a minimum, include the following protective measures:

3.6.5.1 Operating Equipment and Vehicle Leaks. Equipment shall not be stored within 50 feet of a stream, lake, or wetland. Any equipment or vehicles driven, operated, or adjacent to a WLPZ shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic life or riparian habitat.

3.6.5.2 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located in or adjacent to a stream, lake, or wetland shall be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Crews will always maintain spill containment kits on-site during project operations and/or staging or fueling of equipment.

3.6.5.3 Equipment Maintenance and Fueling. No equipment maintenance, fueling or storage will occur within 50 feet of any stream channel, wetland, or lake margin where petroleum products or other pollutants from the equipment may enter these areas.

3.6.5.4 No Dumping. No litter or construction debris shall be deposited within a stream or lake, or where it may pass into a stream or lake. All debris and waste shall be removed daily. All trash cans and dumpsters shall remain covered except when in use and covered at the end of each workday.

3.6.5.5 Sawdust and other non-hazardous wastes. Sawdust, soil, silt, clay, rock, felled trees, slash, sawdust, bark, and ash shall be controlled in such a manner that it does not enter a watercourse and where feasible, not stored within 25 ft of a watercourse.

3.6.5.6 Hazardous Materials. Materials such as debris, ash, rubbish, creosote-treated wood products, cement/concrete, or washings thereof, asphalt, pesticides, paint or other coating material, petroleum products, and batteries can be hazardous to aquatic life, wildlife, or riparian habitat. Hazardous materials associated with project related activities shall be handled, transported, and stored in a manner that prevents materials from contaminating underlying soils and/or entering any watercourse.

3.6.6 Water drafting locations. All water drafting locations shall include appropriate BMPs to prevent sediment discharge from disturbed areas, vehicle tracking, or overtopping to receiving waters. Such locations shall also install appropriate BMPs to prevent petroleum products from entering the waterbody. Pump intakes shall be screened to prevent entrapment of aquatic species. Consultation with relevant federal, state, and local agencies shall occur before initiating drafting activities.

3.6.7 Coordination with area involved water systems. All activities necessitating the use of area water, such as, and not limited to dust suppression, cleaning, washing, sweeping, and irrigation, shall be coordinated with the area involved water system to avoid any potential conflicts. All activities that may affect, impede, or impact the ability of the area involved water system from executing their duties shall be coordinated with the area involved water system to avoid any potential conflicts.

3.6.8 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

4.0 Debris Removal

4.1 Debris Removal Site Requirements

4.1.1 Trenching / Excavation /Grading Spoils. As required by an applicable permit, castings or spoils from the trenching / excavation operations shall be placed on the stream side of the trenching / excavation /Grading site.

4.1.2 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. *All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post disturbance activities*. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization. At staging areas and processing sites, Construction and/or Industrial Stormwater permits administered by the California Water Boards may be required. Generally, a stormwater permit is required for soil disturbances of one acre or more (where the CWA section 404 silviculture exemption does not apply), or when part of a larger plan of development.

4.1.3 Water drafting locations. All water drafting locations shall include appropriate BMPs to prevent sediment discharge from disturbed areas, vehicle tracking, or overtopping to receiving waters. Such locations shall also install appropriate BMP's to prevent petroleum products from entering the waterbody. Pump intakes shall be screened to prevent entrapment of aquatic species. Consultation with relevant federal, state, and local agencies shall occur before initiating drafting activities.

4.1.4 Coordination with area involved water systems. All activities necessitating the use of area water, such as, and not limited to dust suppression, cleaning, washing, sweeping, and irrigation, shall be coordinated with the area involved water system to avoid any potential conflicts. All activities that may affect, impede, or impact the ability of the area involved water system from executing their duties shall be coordinated with the area involved water system to avoid any potential conflicts.

4.1.5 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

4.2 Staging Area Requirements (Pre-Processing Sites)

4.2.1 Permit coverage. Construction and operation of staging areas and processing sites may require Construction and/or Industrial Stormwater Permits issued by the appropriate regional water board. Permit type and permitting requirements are determined based on site-specific characteristics and proposed use. Consultation with the appropriate regional water board is required prior to construction.

4.2.2 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post

disturbance activities. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization. At staging areas and processing sites, Construction and/or Industrial Stormwater permits administered by the California Water Boards may be required. Generally, a stormwater permit is required for soil disturbances of one acre or more (where the CWA section 404 silviculture exemption does not apply), or when part of a larger plan of development

4.2.3 Ground disturbance and creation of areas bare of vegetation. Work shall be planned to minimize ground disturbance activities and to prevent discharge of sediment to receiving waters. Generally, where ground disturbance is larger than one acre, a Construction Stormwater permit may be required. Consult with the applicable regional water board before conducting work in instances where large ground disturbance activity is likely to occur.

4.2.4 Staging Areas and Processing Sites. Construction and/or industrial stormwater permits may be required for staging areas and/or processing sites. Should stormwater permits be required, the designated contractors' Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer (QSD) shall develop a SWPPP and implement it as appropriate. Other construction activities not requiring a stormwater permit but having the potential to discharge sediment to receiving waters, shall contain sufficient sediment and erosion control Best Management Practices (BMPs) to mitigate discharge of sediment to receiving waters. Contractors shall, at a minimum, include the following protective measures:

4.2.4.1 Operating Equipment and Vehicle Leaks. Equipment shall not be stored within 50 feet of a stream, lake, or wetland. Any equipment or vehicles driven, operated, or adjacent to a WLPZ shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic life or riparian habitat.

4.2.4.2 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located in or adjacent to a stream, lake, or wetland shall be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Crews will always maintain spill containment kits on-site during project operations and/or staging or fueling of equipment.

4.2.4.3 Equipment Maintenance and Fueling. No equipment maintenance, fueling or storage will occur within 50 feet of any stream channel, wetland, or lake margin where petroleum products or other pollutants from the equipment may enter these areas.

4.2.4.4 No Dumping. No litter or construction debris shall be deposited within a stream or lake, or where it may pass into a stream or lake. All debris and waste shall be removed daily. All trash cans and dumpsters shall remain covered except when in use and covered at the end of each workday.

4.2.4.5 Sawdust and other non-hazardous wastes. Sawdust, soil, silt, clay, rock, felled trees, slash, sawdust, bark, and ash shall be controlled in such a manner that it does not enter a watercourse and where feasible, not stored within 25 ft of a watercourse.

4.2.4.6 Hazardous Materials. Materials such as debris, ash, rubbish, creosote-treated wood products, cement/concrete, or washings thereof, asphalt, pesticides, paint or other coating material, petroleum products, and batteries can be hazardous to aquatic life, wildlife, or riparian habitat. Hazardous materials associated with project related activities shall be handled, transported, and stored in a manner that prevents materials from contaminating underlying soils and/or entering any watercourse.

4.2.5 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

4.3 Processing Facility Requirements

4.3.1 Permit coverage. Construction and operation of staging areas and processing sites may require Construction and/or Industrial Stormwater Permits issued by the appropriate regional water board. Permit type and permitting requirements are determined based on site-specific characteristics and proposed use. Consultation with the appropriate regional water board is required prior to construction

4.3.2 Adequate Erosion Control Materials Onsite. Prior to any ground disturbing work at a project site, erosion control materials (such as, fiber rolls, bonded fiber matrix, erosion control mats, soil tackifiers) shall be stockpiled on site. All disturbed soils associated with the Project site will be stabilized to reduce erosion potential, both during and post disturbance activities. Planting and seeding with native species, or a sterile seed mix and mulching are acceptable erosion control BMPs. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such erosion control stabilization. At staging areas and processing sites, Construction and/or Industrial Stormwater permits administered by the California Water Boards may be required. Generally, a stormwater permit is required for soil disturbances of one acre or more (where the CWA section 404 silviculture exemption does not apply), or when part of a larger plan of development

4.3.3 Ground disturbance and creation of areas bare of vegetation. Work shall be planned to minimize ground disturbance activities and to prevent discharge of sediment to receiving waters. Generally, where ground disturbance is larger than one acre, a Construction Stormwater permit may be required. Consult with the applicable regional water board before conducting work in instances where large ground disturbance activity is likely to occur.

4.3.4 Staging Areas and Processing Sites. Construction and/or industrial stormwater permits may be required for staging areas and/or processing sites. Should stormwater permits be required, the designated contractors' Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer (QSD) shall develop a SWPPP and implement it as appropriate. Other construction activities not requiring a stormwater permit but having the potential to discharge sediment to receiving waters, shall contain sufficient sediment and erosion control Best Management Practices (BMPs) to mitigate

discharge of sediment to receiving waters. Contractors shall, at a minimum, include the following protective measures:

4.3.4.1 Operating Equipment and Vehicle Leaks. Equipment shall not be stored within 50 feet of a stream, lake, or wetland. Any equipment or vehicles driven, operated, or adjacent to a WLPZ shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic life or riparian habitat.

4.3.4.2 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located in or adjacent to a stream, lake, or wetland shall be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Crews will always maintain spill containment kits on-site during project operations and/or staging or fueling of equipment.

4.3.4.3 Equipment Maintenance and Fueling. No equipment maintenance, fueling or storage will occur within 50 feet of any stream channel, wetland, or lake margin where petroleum products or other pollutants from the equipment may enter these areas.

4.3.4.4 No Dumping. No litter or construction debris shall be deposited within a stream or lake, or where it may pass into a stream or lake. All debris and waste shall be removed daily. All trash cans and dumpsters shall remain covered except when in use and covered at the end of each workday.

4.3.4.5 Sawdust and other non-hazardous wastes. Sawdust, soil, silt, clay, rock, felled trees, slash, sawdust, bark, and ash shall be controlled in such a manner that it does not enter a watercourse and where feasible, not stored within 25 ft of a watercourse.

4.3.4.6 Hazardous Materials. Materials such as debris, ash, rubbish, creosote-treated wood products, cement/concrete, or washings thereof, asphalt, pesticides, paint or other coating material, petroleum products, and batteries can be hazardous to aquatic life, wildlife, or riparian habitat. Hazardous materials associated with project related activities shall be handled, transported, and stored in a manner that prevents materials from contaminating underlying soils and/or entering any watercourse.

4.3.4.7 Dust Control. Dust control practices, such as rocking temporary access road entrances and exits, wetting frequently used unpaved roadways, and covering temporary stockpiles should be implemented.

4.3.4.8 Permanent Erosion Control. Incorporate permanent erosion control measures such as water breaks, rolling dips, bio-filtration strips and swales to the maximum extent feasible in an effort to hydrologically disconnect drainage features from receiving waters. This includes but is not limited to any work sites, staging areas, processing areas, logging/hazard tree removal operations areas, and/or roads and trails used during operations.

4.3.4.9 Pesticides. Use of pesticides (including herbicides) is prohibited.

4.3.4.10 Drop Inlets. Protect drop inlet structures near work areas.

4.3.5 BMP Implementation Monitoring. Prior to completing operations at a project site, implementation monitoring shall occur in project areas with erosion potential and sediment discharge potential. Implementation monitoring consists of detailed visual monitoring to verify management measures are properly implemented in accordance

with EPP measures and any water quality protective measures identified by California Water Boards staff during site inspections.

5.0 Drinking Water Operations and Coordination

5.1 Coordination. Coordinate with State Water Board's Division of Drinking Water staff and area involved water systems for work performed in areas where drinking water infrastructure exists.

5.2 Coordination with area involved water systems. All activities necessitating the use of area water, such as, and not limited to dust suppression, cleaning, washing, sweeping, and irrigation, shall be coordinated with the area involved water system to avoid any potential conflicts. All activities that may affect, impede, or impact the ability of the area involved water system from executing their duties shall be coordinated with the area involved water system to avoid any potential conflicts.

5.3 Use of Water. Water from the project area involved water system shall be conducted such that low operational pressures shall be avoided. Low operational water system pressures can risk public health and result in the issuance of unsafe water alerts – boil water notice, or other. Coordinate with the area involved water system as to where to connect for water service as well as the rate of use and the equipment to use.

5.4 Water Meters. If and as required, local permits shall be obtained and use of water meters shall be implemented. Contact the local jurisdiction to verify this requirement – City, County, area-involved water system.

5.5 Damage to Water Facilities. Any digging, debris removal, earth or soil work, or excavation can result in damage to water facilities including waterlines. Coordinate with the area involved water system so to understand where the water facilities, such as waterlines, are located to avoid these conflicts. The water service to the defunct locations may need to be shut off at the meter to prevent uncontrolled loss of water and water pressure. The area involved water system may need to shut-of the utility service valve and pull the meter, severing the connection to the customer line. Service connections shall be staked painted blue to maintain visibility for any crews working in the area.

5.6 Temporary Debris Storage. Placement of debris piles may impede area involved water system access to their waterlines and facilities. Coordinate with area involved water system over the proper location of placement of debris materials and waste to avoid placing debris atop water system facilities and appurtenances.

5.7 Water System Infrastructure. Area involved water systems may be conducting restorative activities, such as, but not limited to, flushing waterlines, repairing water facilities, and replacing water facilities. Staging of materials, equipment and machinery may impede area involved water system access to their waterlines and facilities. Coordinate with area involved water system over the proper location of staging of materials, equipment, and machinery.

State Water Resources Control Board

Checklist for Key Best Management Practices Related to Hazard Tree Removal

Activity	Erosion and Sediment Control BMPs	Complete?
Skid Trails	Drainage structures have been installed in a manner that will prevent concentrated flows from discharging into a watercourse.	☐
	Surface of skid trails have been treated where needed in a manner that will reduce rill initiation, gullying and sheet erosion.	☐
	Within the Watercourse and Lake Protection Zone (WLPZ) and skid trails on steeper slopes (i.e. greater than 30%) which lead into the WLPZ: skid trail surface has been treated with erosion control measures (chips, slash etc.) and drainage structures have been installed at a frequency that will prevent sediment discharging to a watercourse.	☐
Temporary Watercourse Crossings	Fine soils or woody debris deposited into a watercourse by operations have been removed, stored and stabilized to reduce risk of discharging to a watercourse.	☐
	The bed and bank of watercourses disturbed during operations have been recontoured as close as feasible to the natural slope.	☐
	Drainage structures have been installed on the approaches to watercourse crossings (water bars or rolling dips) in a manner that will prevent concentrated flows from reaching the watercourse.	☐
	Approaches to watercourse crossings have been stabilized in a manner that will prevent sediment discharge to the watercourse.	☐
Trees felled Across Watercourses	Disturbance to the bed and/or bank of the watercourse has been stabilized to prevent erosion and deterioration.	☐
	All woody debris located within the watercourse channel as a result of felling operations has been removed.	☐
WLPS Operations	Ground disturbance within the WLPZ from operations has been stabilized with suitable material (slash, chips, bark etc.) to a depth adequate to reduce erosion and sediment discharge to waters of the state.	☐
Roads	Roads are hydrologically disconnected from watercourse crossings.	☐
	Roads have been treated with water or other suitable tackifiers and recompacted to minimize the presence of fine sediment on the surface of the road.	☐

Licensed Timber Operator Signature:	**Date Signed:**
Contract Manager Signature:	**Date Signed:**

Definition and Diagrams

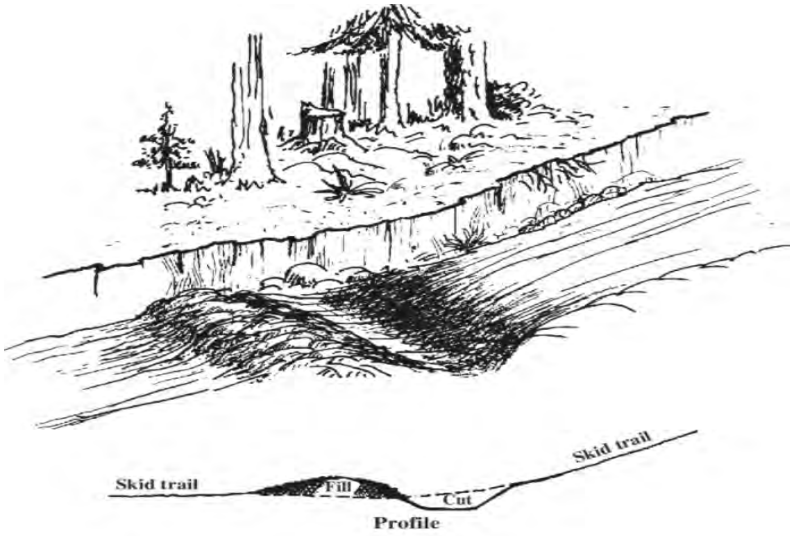
Watercourse Classification and WLPZ Widths

Class I Watercourse: Domestic Supplies, including springs, on site and/or within 100 feet downstream of the operational area and/or Fish always or seasonally present onsite includes habitat to sustain fish migration and spawning. WLPZ Widths: slopes less than 30%: 75ft, slopes 30-50%: 100ft, and slopes greater than50% 150ft

Class II Watercourse: Fish always or seasonally present offsite within 1000 ft downstream and/or aquatic habitat for nonfish aquatic species. WLPZ Widths: slopes less than 30%: 50ft, slopes 30-50%: 75ft, and slopes greater than 50%: 100ft.

Class III Watercourse: 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 after completion of Timber Operations. WLPZ Widths: The RPF shall designate an equipment limitation zone (ELZ) at least 25 ft where slopes are less than 30% and at least 50ft where slopes are greater than 30%.

Water Bar: a structure constructed across an unpaved road prism intended to capture runoff and transport it across the road to discharge into material capable of filtering and settling sediment before it reaches a watercourse. Is installed at a frequency that prevents concentration of runoff between structures.



Hydrologic disconnection: the removal of direct routes of drainage or overland flow of road runoff to a watercourse or lake

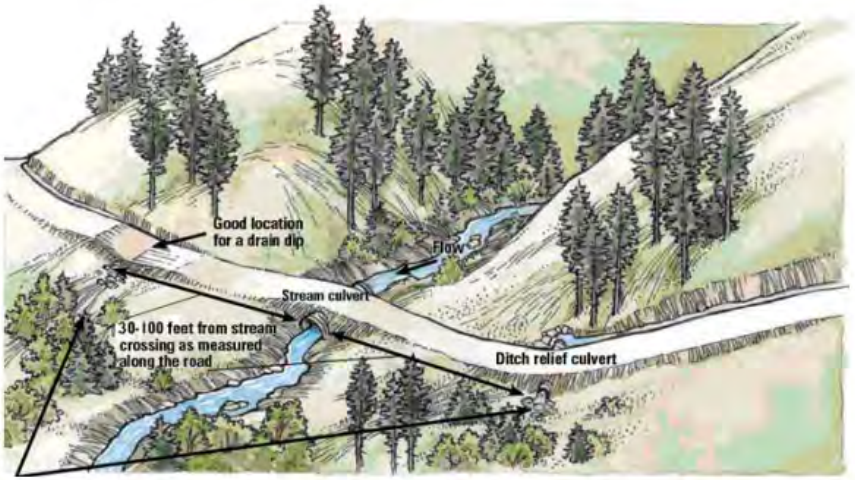


FIGURE 85. *Diagram showing hydrologic disconnection on the approaches to a stream crossing. Note the absence of an apparent critical dip at the crossing. (Modified from: Adams and Storm, 2011; see Appendix C for use in TRA #5).*

North Branch Hazard Tree Removal- Riparian Area Operations Guide

Prepared by

Sierra Timber Services

September 29, 2021

Purpose and Need:

Removing all woody debris greater than 3 inches in diameter and 3” in length created by tree removal operations from inside the Watercourse Protection Zones results in significant soil disturbance which increases risk of erosion and impacts to water quality.

This document provides Project Staff and Tree Removal Contractors guidance on where Incidental Slash may be left and where both fine and large logging slash may be appropriately used for Erosion Control.

Definitions:

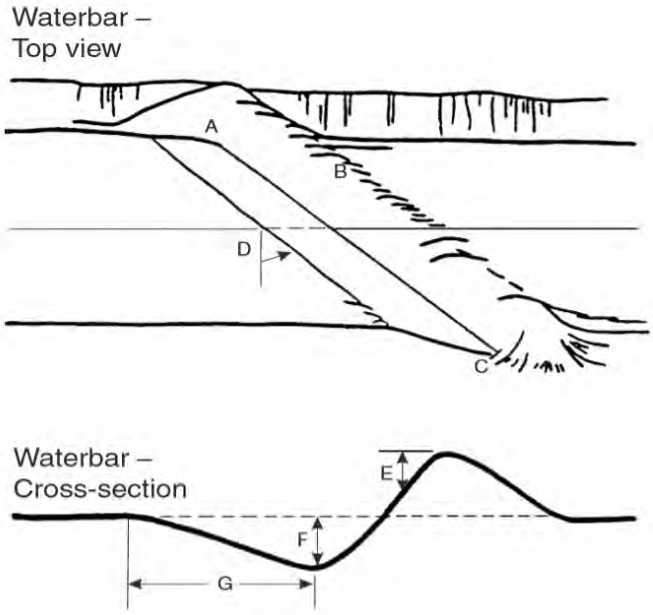
Incidental slash – Limbs and debris that break off of the main stem of the tree during the falling and wood management processes.

Lopping – Cutting slash so that it is no taller than the specified height from the ground.

The above photo shows Incidental slash which has been lopped flat with a Watercourse Protection Zone

Waterbar- A ditch and berm constructed diagonally across a skid trail (travel way) to effectively divert runoff from the trail.

Water bars should be 6- 12in deep. They should angle slightly down hill allowing water to run freely out of the dip and off the road. The dip should not drain directly into a water course channel and a filter strip slash should be placed below the lead out as an energy dissipater.



Watercourse and Lake Protection Zone (WLPZ) means a strip of land along both sides of a watercourse where additional practices are required by the California Forest Practice Rules to protect the quality and beneficial uses of water.

Watercourse Protection Zone widths vary by Watercourse Classification and Slope as shown on the table below.

Watercourse Buffer Widths				
	Definition	Slope		
		Less than 30%	Greater than 30%	Greater than 50%
Class I	Contains fish seasonally or all year	75 Ft	100 Ft	150 Ft
Class II	Water is present much of year. Contains riparian vegetation	50 Ft	75 Ft	100 Ft
Class III	Can transport sediment and storm water downstream to other watercourses.	25 Ft	50 Ft	50 Ft

Slash Removal standards for Class I, II and III Watercourse Protection Zones

First 25 feet from the Watercourse

- Remove logs and branches over 6” in diameter and greater than 4’ in length and lop the remaining incidental slash to less than 6” above the ground within the Watercourse Protection Zone. (Exceptions may be made for small areas where removing slash would cause excessive soil disturbance or damage to living riparian vegetation.)
- Remove any incidental slash from below the high water mark and stabilize it up slope where it will not enter the creek during high flows.
- Do not trim stumps in this area. The stump height requirement is waived for the 1st 25 feet from any Class I, II, or III watercourse.
- Chips are not recommended to be placed in this zone.

26 feet to the edge of the Watercourse Protection Zone

- Remove logs and branches over 6” in diameter and greater than 4’ in length.
- Lop incidental slash flat. The limbs should stick up no more than 6” from the ground. A person should be able to easily walk through this area.
- Skid trails over 30% slope, outlets of water bars and disturbed areas with high erosion potential may be mulched with larger logging slash (90% less than 12” in diameter & 8’ in length) and lopped to less than 18” above the ground.
- Skid trails under 30% slope may be mulched with fine logging slash (90% less than 4” in diameter 4’ in length), chips may also be used where they cannot discharge into the watercourse during the winter. Slash lopped to less than 6” above the ground.

Erosion Control Guidance for Water Course Protection Zones

Skid trails (Travel Ways) within the Watercourse Protection Zone

- Skid trails within the Watercourse protection Zone require both water bars and mulching for erosion control.
- Install water bars 50 -100 feet apart. Use slash as an energy dissipater at the outlet of the water bar.

Water bar spacing by trail gradient			
Less than 10% slope	11-25%slope	26-50% slope	Greater than 50%slope
100 feet apart	75 feet apart	50 feet apart	50 feet apart

Skid Trail Mulching Standards:

- Less than 30% slope – Mulch to 70% coverage fine logging slash (90% less than 4" in diameter 4' in length), chips may also be used where they cannot discharge into the watercourse during the winter. Slash lopped to less than 6" above the ground.
- Greater than 30% slope or disturbed areas with loose soil with high erosion potential – Mulch to 70% coverage with larger logging slash (90% less than 12" in diameter & 8' in length) Lopped to less than 18" above the ground.

Class III Watercourse crossings-

- Clean all loose dirt and debris from the crossing restoring the dip to its natural profile.
- Place fine logging slash from just above the high water mark to the first water bar at 25 ft. Slash should have 70% coverage and average 4-6 inches in depth.
- Install a water bar at 25 ft. each side of the crossing

Attachment 2

2021 Statewide Fires –Environmental Protection Plan

California Natural Resources Agency (CNRA)
California Department of Fish and Wildlife (CDFW)
California Department of Forestry and Fire Protection (CAL FIRE)

Post Fire Statewide Best Management Practices

2021 Statewide Fires –Environmental Protection Plan

California Natural Resources Agency (CNRA)
California Department of Fish and Wildlife (CDFW)
California Department of Forestry and Fire Protection (CAL FIRE)

Post Fire Statewide Best Management Practices

Contents

1.0 Introduction

This document summarizes Best Management Practices (BMPs) for California Department of Forestry and Fire Protection (CAL FIRE) and California Department of Fish and Wildlife (CDFW) Regions in Sections 2.0 and 3.0. The BMPs have been developed for use and reference in the Private Property Debris Removal (PPDR) and non-utility hazard tree removal programs ('Debris Removal activities') for the Debris Removal Operation Center (DROC) for the 2021 Wildfires.

2.0 CAL FIRE

The Z'Berg-Nejedly Forest Practice Act (2021 California Forest Practice Rules (FPR) are implemented by CAL FIRE for non-federal timberlands in the State. The removal of hazardous trees is an integral part of the Debris Removal Activities for which the following FPR BMPs will apply. In addition, an Exemption to the Timber Harvest Plan permit requirements under FPR 1052.1.b.was waived for the 2020 Wildfires to remove duplicate requirements for addressing archeological and cultural resource studies (contained in Exhibit 6.1) and is incorporated by reference.

FPR-1 – The Licensed Timber Operator (LTO) will comply with the Forest Practice Rules.

FPR-2 - Where applicable, if construction of new road is necessary, a Notice of Emergency Operations (CCR 1052) will be submitted to CAL FIRE and any required permitting obtained from the appropriate RWQCB (as applicable to the specific property) will be obtained.

FPR-3 - Location and Classification of All Watercourses. The Registered Professional Forester (RPF) or a supervised designee will identify the classification of all water courses, and mark flag the watercourse and lake protection zone (WLPZ).

FRP-4 - Where applicable, if in-lieu practices, exceptions to rules or alternative practices not specifically waived, they are determined to be necessary for which a Notice of Emergency Operations (CCR 1052) will be submitted to CAL FIRE.

3.0 CDFW

Sections 4.0 and 5.0 of this document contain the statewide and fire-specific Best Management Practices (BMPs) developed to by the California Department of Fish and Wildlife (CDFW) for use and reference during the 2021 Wildfire Debris Removal activities. These BMPs are provided in response to the Governor's Executive Order (EO) to assist lead agencies and contractors conducting emergency cleanup activities while minimizing the environmental impacts of those activities. These BMPs do not overlap with or include federal regulations or requirements. As such, lead agencies and contractors are responsible for meeting federal permitting needs and ensuring compliance with federal environmental regulations prior to initiating project activities.

These BMPs are intended to assist with expeditious removal of waste materials resulting from the 2021 Wildfires, stabilization of impacted land to prevent further erosion and sediment transportation, and restoration and rehabilitation of impacted land. These BMPs are not intended to replace the notification and permitting requirements for permanent replacement of structures lost to wildfire unless otherwise noted. Construction of permanent structures must be carried out according to existing state and local regulations. In the case of structures crossing watercourses, temporary crossings are allowed under the Suspension for the purpose of access to areas where cleanup efforts will be conducted and are finite in duration. Construction and replacement of permanent structures crossing watercourses are considered activities not covered by the Suspension and must be compliant with applicable planning, CEQA, and permitting requirements.

These BMPs are based on the wildfire information currently available as of August 23, 2021. Of the eleven active wildfires named in the EO, ten have not been contained as of that date. These BMPs may be amended to account for new or changed circumstances as additional information becomes available related to the scope, extent, and impacts of currently active wildfires.

CDFW anticipates the Governor's Office of Emergency Services (CalOES) may retain consulting services to assist in the development of supplemental BMPs to address circumstances not expressly covered by these BMPs. BMPs recommended by CalOES and any consultant it retains must approved by CDFW before implementation. The EPP may be amended to include BMPs approved by CDFW as circumstances change. Any omission in this EPP of BMPs or failure to account for a particular set of circumstances should not be construed as a determination by CDFW that no BMPs are warranted.

Potential impacts from PPDR activities include:

- Deposit of hazardous waste into watercourses and terrestrial habitat, including, but not limited to, sediment, ash, concrete, burned materials, burned vegetation, and construction materials
- Alteration of watercourse bed, bank, and channel resulting in restricted fish passage and degradation of riparian wildlife habitats
- Removal of habitat and habitat elements, including historical nest and roosting trees, active nests/roosts/dens, foraging habitat, and riparian habitat
- Take of species listed under the California Endangered Species Act
- Degradation of habitat or harm to special status species listed under the Native Plant Protection Act and other provisions of the California Fish and Game Code
- Introduction of non-native invasive species into vulnerable habitats

4.0 Statewide CDFW BMPs

4.1 Project Planning

4.1.1 CDFW Consultation. These BMPs have been finalized before the 2021 wildfires have been fully contained. Because of the changing nature of the wildfires, it is imperative to consult with CDFW early in the project planning phase to ensure habitat and species-specific BMPs are adequate for the project. CDFW should also be consulted to ensure water drafting sites, temporary watercourse crossing sites, staging areas, and access routes do not impact sensitive habitat. If project activities will occur near sensitive habitat, project proponent should consult with the CDFW CalOES contact and the qualified biologist or Task Force Leader (TFL) to ensure the habitat is clearly marked and avoided during project activities. To identify the appropriate area specific CDFW CalOES contact for consultation, please refer to Section 5.2.

4.1.2 Qualified Biologist. If it is determined the project will need a qualified biologist, the biologist should hold a wildlife biology, botany, ecology, forestry, or other relevant degree from an accredited university and: 1) be knowledgeable in relevant species life histories and ecology, 2) be able to correctly identify relevant species and habitats, 3) have experience conducting field surveys of relevant species or resources, 4) be knowledgeable about survey protocols, 5) be knowledgeable about state and federal laws regarding the protection of special-status species, and 6) have experience with CDFW's California Natural Diversity Database (CNDDB) and Biogeographic Information and Observation System (BIOS). The project proponent will review the resume and approve the qualifications of the biologist. If species-specific protocol surveys are performed, surveys would be conducted by qualified biologist with the minimum qualifications requires by the appropriated protocols, including having CDFW or USFWS approval to conduct such surveys, if required by certain protocols. If the size of the project warrants more than one qualified biologist, one of the qualified biologists should be designated the lead qualified biologist and be the primary point of contact for the project.

4.1.3 Spill Response Plan. Prior to the start of project activities, a spill response plan should be prepared that identifies how hazardous materials will be stored and removed from the site, and the actions to be taken in the event of spill of concrete, petroleum products, sediment, or other hazardous material. The plan should identify the emergency response materials which will be kept at the project site to allow the rapid containment and clean-up of any spilled material.

4.1.4 On-Site Education Training. The qualified biologist or TFL should conduct a pre-project training program for all employees, contractors, or personnel working within the project site prior to performing any work. The program should consist of a presentation from the qualified biologist or TFL that includes a discussion of the biology of the habitats and special-status species identified during the consultation with CDFW and

those with potential to be present at the project site. The qualified biologist or TFL should also include as part of the education program information about the distribution and habitat needs of any special-status species that may be present and project-specific protective measures included in the EPP. Interpretation shall be provided for non-English speaking employees, contractors, or personnel prior to their performing any work at the project site. A handout that summarizes the education program including images of special-status species shall also be distributed to all personnel working on the project.

4.1.5 In-Water Work. When project activities will require working within watercourses, installing temporary access through watercourses, and/or removal or placement of materials within the bed, bank, or channel of watercourses, work must be performed in compliance with federal notification and permitting requirements. Non-compliance with applicable environmental laws and regulations, or requirements set forth in the EPP, may result in an enforcement action by federal or state resource agencies.

4.1.6 Permanent Replacement of Watercourse Crossings. These BMPs are intended to assist with the timely removal, storage, transportation, and disposal of hazardous and non-hazardous solid waste and debris resulting from the 2021 wildfires named in EO N-13-21 and EO N-14-21. These BMPs are not intended to be utilized for permanent replacement of watercourse crossings and other in-water infrastructure, such as culverts, that have been destroyed in those wildfires. In the event permanent replacement of a watercourse crossing and/or other in-water infrastructure is needed for access to a primary dwelling or for emergency services, CDFW should be consulted early in the planning phase to discuss permitting requirements for non-EPP activities occurring simultaneously with EPP activities to minimize impacts to the watercourse.

4.2 Pollution Prevention and Equipment Storage

4.2.1 Hazardous Materials. Debris, soil, silt, bark, slash, sawdust, mulch, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances resulting from project related activities which could be hazardous should be prevented from contaminating the soil and/or entering any watercourse bed, bank, or channel or lake margin by either being removed daily or stored in watertight containers onsite until removed.

4.2.2 Equipment Maintenance and Fueling. No equipment maintenance, fueling, or storage should occur within or next to a watercourse bed, bank, or channel or lake margin where petroleum products or other pollutants from the equipment may enter these areas.

4.2.3 Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or next to a watercourse bed, bank, or channel or lake margin should be

checked and maintained daily to prevent leaks of materials that could be harmful to aquatic and terrestrial life or riparian habitat.

4.2.4 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located within or next to a watercourse bed, bank, or channel or lake margin should be positioned over drip pans.

4.2.5 Removal of Trash and Debris. All raw construction materials and waste from the project site following the completion of work should be removed. No litter or construction debris should be deposited within or next to a watercourse bed, bank, or channel or lake margin, or where it may pass into a watercourse bed, bank, or channel or lake margin.

4.3 Sediment and Erosion Control

4.3.1 Sediment and Erosion Control Measures. Prior to any ground disturbing work, sediment and erosion control measure materials should be stockpiled on site. Sediment and erosion control measures should be used during all phases of operation where soil, trenching spoils and casting, and sediment and/or debris runoff threatens to enter a watercourse bed, bank, or channel or lake margin. Examples of sediment and erosion control measures include bioengineering, silt fencing, compost socks, coir logs, coir rolls, straw waddles, straw bale dikes, planting, mulching, seeding and high-tack hydroseeding with native species or a noxious weed-free seed mix recommended for the county in which the project takes place. Sediment and erosion control measures should be installed in a manner that prevents erosion of the site and prevents sediment and debris from entering a watercourse.

Where vegetation cannot reasonably be expected to become established and erosion control measures are intended for more than one season, the materials used should consist of biodegradable materials. For example, tacked-down jute erosion control blankets, coconut fiber matting, jute netting, and other soil stabilization methods or similar should be used. Broadcast straw or other mulch is acceptable on soil with little to no slope and in areas that are not exposed to wind. ***Materials used in the sediment barriers should not pose an entanglement risk to fish or wildlife***.

4.3.2 Sediment Traps for Runoff from Steep Areas. Preparations should be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential or contained behind erosion control structures or sediment traps. Erosion control measures such as straw bales, waddles, coir socks and/or siltation control fencing/silt barriers should be placed and maintained until the threat of erosion ceases. Frequent water-bars or other appropriate features should be installed on dirt roads, equipment tracks, or other work trails to control erosion.

4.3.3 Maintenance of Sediment and Erosion Control Measures. Sediment and erosion control measures should be maintained in good operating condition until final sign off of the property by the Incident Management Team (IMT). Maintenance includes, but is not limited to, checking sediment and erosion control measures for trapped or entangled fish and wildlife, removing accumulated sediment, repair and or and replacement of damaged sediment and erosion control measures. Modifications, repairs, and improvements should be made to the sediment and erosion control measures whenever needed to maintain them in good operating condition. If a sediment barrier fails to retain sediment, corrective measures should be employed, and a biological monitor should be notified, immediately.

4.4 Watercourse Crossings and In-Water Activities

4.4.1 Equipment Limitation Zone. A minimum 25-foot buffer on either side of watercourses should be implemented when possible as an Equipment Limitation Zone (ELZ). The intent of the ELZ is to reduce or eliminate the likelihood of ground disturbance from heavy equipment that may result in ruts, erosion, and direct sediment delivery to the watercourse. Heavy equipment and vehicles will limit operations within the ELZ unless removal of structures or debris are necessary.

If water drafting and/or temporary watercourse crossings will occur, drafting locations within the ELZ will be clearly indicated with signage or flagging, and sediment and erosion control methods will be used to minimize impacts within the ELZ. When drafting operations at that location end, these erosion control methods should be removed, and the drafting location should be returned to baseline.

4.4.2 Water Drafting. When needed, water drafting operations should be conducted so as not to dewater a watercourse. Water truck operators should be aware of current flow conditions, and water drafting should not occur if there is not adequate flow or if downstream reaches have the potential to be dewatered from drafting activities. Hose intakes should be fitted with a properly sized fish screen, or at a minimum be placed into a perforated bucket, at all times to prevent impingement of aquatic organisms.

4.4.3 Temporary Watercourse Crossings. If an existing or new watercourse crossing must be used, the crossing site should be inspected for fish, wildlife, and special-status plant species prior to entering the watercourse. When a California Endangered Species Act (CESA) listed species is found within the crossing location, all project activities at and immediately adjacent to the detection site should cease until consultation with the qualified biologist or TFL and the CDFW CalOES contact occurs.

4.4.4 Culvert Removal and Replacement. When debris removal activities require removal of a damaged culvert, and the culvert site is within a wetted portion of the watercourse, sediment and erosion control measures should be deployed up and downstream of the removal site to contain sediment-laden water to the immediate area of the culvert

removal. If culvert replacement is needed to reestablish or maintain access to a primary dwelling or for emergency services, CDFW should be consulted early in the planning phase to discuss permitting requirements for activities not covered by the suspension occurring simultaneously with activities covered by the suspension to minimize impacts to the watercourse. At a minimum, the replacement culvert must be sized correctly to accommodate the 100 Year FEMA Floodplain sizing requirements, and not be an impediment to fish passage.

4.4.5 Do Not Impair Water Flow. The installation of temporary watercourse crossings should be installed such that water flow is not impaired and passage of fish and aquatic life-forms is not obstructed. If temporary watercourse crossings are to be used during high seasonal flows, such crossings should accommodate those flows or should be removed before such flows occur.

4.4.6 Temporary Crossing Materials. Materials and methods used for temporary watercourse crossings should cause minimal turbidity or siltation. 2-6-inch pit run rock (as appropriately sized), screened river gravels, clean washed 2-inch or more rock or gravel, and/or logs in fill materials should be included. Temporary watercourse crossing abutments below the high-water mark should be rock or logs.

4.4.7 Stabilize Crossing Sites. All bare soil exposed in conjunction with temporary watercourse crossing construction, deconstruction, maintenance, or repair, should be treated with sediment and erosion control measures immediately upon completion of work on the crossing, and prior to the onset of precipitation capable of generating runoff.

4.4.8 In-Water Silt Barriers. If work or temporary watercourse crossings must occur within a wetted watercourse or lake margin, precautions to minimize turbidity and siltation should be used and may require the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. ***Materials used in the silt barrier should not pose an entanglement risk to fish or wildlife***.

4.4.9 Maintenance of Silt Barriers. Silt collected around the silt barriers should be removed on an as-needed basis to prevent silty/turbid water from flowing around the silt barriers during storm events and to allow the silt barriers to function properly. Silt barriers that trap sediment should be removed when temporary crossings have been taken out and after all flowing water is cleared of turbidity in a manner that will not introduce silt to the stream. The stream should then be remediated to baseline condition.

4.4.10 Bank Stabilization. When needed, temporary bank stabilization should be installed with suitable non-erodible materials that will withstand wash out. The bank stabilization material should extend above the ordinary high-water mark. Only clean material such as rock riprap that is free of trash, debris and harmful material should be used as bank

stabilization materials. Asphalt and concrete should not be considered an acceptable material. At no time should bank stabilization methods incorporate grouting.

4.4.11 Removal of Watercourse Crossings. All materials used in constructing temporary watercourse crossing should be removed once the project is complete. During temporary watercourse crossing removal, all fill material should be excavated in a manner that recreates the natural channel grade and orientation, with a channel bed that is as wide as or slightly wider than the original watercourse.

4.4.12 Stabilize and Inspect Decommissioned and Abandoned Watercourse Crossings. When cleanup efforts include decommissioning or abandoning destroyed watercourse crossings the site should be stabilized and then inspected following the first storm event producing bank full stage flows and again prior to filing the completion report. The inspection should verify the effectiveness of the stabilization measures in preventing sediment discharges to the watercourse and to ensure the measures are functioning to restore natural drainage and hillslope stability. If stabilization measures are found to be ineffective, further stabilization measures should be applied, unless reentering the site would cause greater damage than leaving the ineffective stabilization measures. Barricades should be constructed at all points of access to the decommissioned or abandoned road to effectively prevent use by any passenger vehicle or equipment.

4.5 Vegetation and Tree Clearing

4.5.1 Pre-project Site Survey. Before the start of project activities, the qualified biologist or TFL should survey the project area to ensure no CESA-listed or special-status fish, wildlife, plant species are present, and no active nests, nest cavities, roosts, roost trees, or dens are present. When project activities are proposed within the wetted portion of a watercourse or lake margin, the qualified biologist or TFL should survey the area prior to the start of project activities. When habitat elements with active nests, nest cavities, roosts, roost trees, or dens are detected, the qualified biologist or TFL should refer to Section 2.6 on how to proceed.

4.5.2 Vegetation Removal. Disturbance or removal of vegetation should be kept to the minimum necessary to complete project related activities.

4.5.3 Remove Cleared Material from Watercourses. All trimmed or cleared material and/or vegetation should be removed from the area and deposited where it cannot re-enter the watercourse or lake margin

4.5.4 Commercial Tree Removal. Trees being removed for commercial purposes must adhere to the Forest Practice Rules and project proponents should consult with a Registered Professional Forester (RPF). If avoidable, no trees will be felled in a manner in which they might fall into a watercourse.

4.5.5 Non-Commercial Tree Removal. Trees being removed for non-commercial purposes should be evaluated by a certified arborist. The evaluation should determine the viability of trees marked for removal before tree removal activities begin. If possible, retain large snags, trees with basal hollows or cavities, trees with limbs greater than 6-inches in diameter, old-growth trees, stand-alone granary trees, or other trees with features providing valuable habitat where no immediate risk to infrastructure exists. The CDFW CalOES contact should be consulted when questions arise regarding the above wildlife habitat features. If avoidable, no trees should be felled in a manner in which they might fall into a watercourse. When a tree with an active bat roost is selected for removal, refer to Measure 4.6.4 on how to proceed.

4.6 Wildlife Protection

4.6.1 Construction Monitoring. If assigned to the project, the qualified biologist should be available to arrive on site within a reasonable amount of time (one to two hours) during all project activities. When the qualified biologist is not present, the TFL should be present on site. If the qualified biologist or TFL appoints a construction monitor in addition oversee project activities, the construction monitor should have training in avoidance and minimization measures specific to CESA-listed species potentially present at the project site. At a minimum, the construction monitor should have attended the on-site education training.

4.6.2 Daily Clearance Survey. Before the start of daily project activities, the qualified biologist, TFL, or construction monitor should survey the project area to ensure no new active nests, nest cavities, roosts, or dens have become established, including surveying any excavated areas within the project area to ensure trapped wildlife are allowed an opportunity to escape. This includes inspecting around and inside any open-ended pipes or infrastructure elements stored on the project site that will be moved or utilized during project activities.

4.6.3 Detection of Wildlife. When the qualified biologist, TFL, and/or construction monitor identifies active nests, dens, roosts, roost trees, and/or nest cavities, a buffer should be established between ongoing project activities and the detection site so the wildlife are not disturbed, and it can be identified to species. The buffer should be delineated by temporary fencing or markers and remain in effect throughout project activities or until active nests, dens, roosts, roost trees, and/or nest cavity is/are no longer active, as determined by the qualified biologist. The buffer(s) should be determined by the qualified biologist and based on the life history of the species detected, including their sensitivity to noise, vibration, ambient levels of human activity and general disturbance, the current site conditions (screening vegetation, terrain, etc.), and the various project-related activities necessary to implement the project. If feasible, consider leaving some larger diameter snags and/or downed logs nearby that may provide food source and shelter for wildlife.

When detected wildlife is determined to be a CESA-listed species or evidence of their active presence is identified, the detection site should be buffered and all project activities at and immediately adjacent to the detection site should cease until consultation with the qualified biologist, TFL, and the CDFW CalOES contact occurs.

When detected wildlife is determined to not be a CESA-listed species and a buffer is not feasible while allowing work to continue, and the species is not protected by federal regulations, the qualified biologist, in consultation with the CDFW CalOES contact, may attempt to safely capture and relocate the wildlife to outside the project area if capture is feasible and will not endanger the wildlife.

4.6.4 Tree Removal with Active Bat Roost. When a tree with an active bat roost is selected for removal, the tree should be removed using a two-step removal process. The limbs of the tree should be removed and left on the ground while the trunk is left in place during the first day, and during the following day the trunk should be removed. This process will allow the bats the opportunity to vacate the roost during the night prior to the trunk removal.

4.6.5 Rock Outcrops and Downed Logs. When rock outcroppings and downed logs that may provide shelter for wildlife are present within the project area, a buffer should be installed to exclude the feature from the area where active work is being performed. If downed logs and/or boulders must be removed, the qualified biologist or TFL should survey the area prior to start of removal activities to prevent wildlife mortality to the extent possible.

4.6.6 Wildlife Encounters. When wildlife is encountered during project activities, the wildlife should be allowed to leave the project area unharmed. If any CESA-listed wildlife is encountered, the qualified biologist or TFL should be notified. If the wildlife is discovered or is caught in any pits, ditches, or other types of excavations, the qualified biologist or TFL should consult with the CDFW CalOES contact and, if unable to escape on its own, the qualified biologist or TFL should release it outside the project area into the most suitable habitat near the project area. Project activities should not be ceased if the observed wildlife is aerial birds flying over or through the project area.

4.6.7 Escape Ramp in Trench. At the end of each workday, an escape ramp should be placed at each end of any open excavation to allow wildlife that may become trapped to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees and has enough traction to allow wildlife to escape.

4.7 Plant and Habitat Protection

4.7.1 Sensitive Habitats and Land Types. During initial project planning and consultation with CDFW CalOES contacts, sensitive habitats and land types should be identified, marked with exclusion fencing or similar methods, and avoided. Before the start of project

deployment, the project site should be visually inspected for wet meadows, vernal pools, areas with biological crusts, pebble plains, quartz deposits (in arid habitats), desert pavement, etc. These areas are extremely sensitive to any disturbance including foot traffic and should be avoided. If project logistics necessitate entry into these habitat types, consultation with the CDFW CalOES contact and the qualified biologist or TFL for additional site-specific measures should occur prior to any entry into those habitats. Additional measures could include, but are not limited to, full avoidance, special low-impact rubber mat installation, seasonal avoidance, transplanting, and reseeding.

4.7.2 Special-Status Botanical Species. Avoid impacts to rare plant species by identifying areas with rare plants during the appropriate blooming season and establishing work season buffers. If rare, threatened, or endangered plant species are found during operations a 10-foot Equipment Limitation Zone (ELZ) should be placed around the population. If trees are to be harvested within the ELZ, trees should be felled away from the core plant populations if feasible. If avoidance is not possible, the qualified biologist or TFL should consult with the CDFW CalOES contact for additional site-specific measures.

4.7.3 Invasive Species Prevention. All contractors should follow guidelines in the California Invasive Plant Council's *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers (Cal-IPC 2012)* (https://www.cal-ipc.org/docs/bmps/dd9jwo1ml8vttq9527zjhek99qr/BMPLandManager.pdf) to prevent the spread of invasive plant species. Equipment should be cleaned of material that may harbor invasive plant seeds or invasive pests before starting a new project in a different watershed or fire boundary. This material includes dirt or plant seeds on construction equipment, tools, boots, and clothing.

5.0 Fire-Specific BMPs based on CDFW Region

5.1 CDFW Regions (https://wildlife.ca.gov/Regions):

- Northern Region: Del Norte, Humboldt, Lassen, Mendocino, Modoc, Shasta, Siskiyou, Tehama, and Trinity counties.
- North Central Region: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Lake, Nevada, Placer, Plumas, Sacramento*, San Joaquin*, Sierra, Sutter, Yolo*, and Yuba counties. *Note: These counties are split between regions. See detailed map at https://wildlife.ca.gov/Portals/0/Images/reg-2-3-detail.jpg.
- Bay Delta Region: Alameda, Contra Costa, Marin, Napa, Sacramento*, San Mateo, Santa Clara, Santa Cruz, San Francisco, San Joaquin*, Solano, Sonoma, and Yolo* counties. *Note: These counties are split between regions. See detailed map at https://wildlife.ca.gov/Portals/0/Images/reg-2-3-detail.jpg.
- Central Region: Fresno, Kern, Kings, Madera, Mariposa, Merced, Monterey, San Benito, San Luis Obispo, Stanislaus, Tulare, and Tuolumne counties.

- South Coast Region: Los Angeles, Orange, San Diego, Santa Barbara, and Ventura counties.
- Inland Deserts Region: Imperial, Inyo, Mono, Riverside and San Bernardino counties.

5.2 CDFW Contacts

CDFW Contacts are contained in Section 6.0, Exhibit 6.2.

5.3 Species-Specific Measures

In addition to the measures below, please reference CDFW *2021 Statewide Fires Habitats and Special Status Species Impacted, by Fire Name, CDFW Region, and County _09082021,* included as Section 6.0, Exhibit 6.3 (11.10.21 Rev1), for additional species and habitat that may require consideration during project activities.

The following species-specific measures do not represent an exhaustive list of species that require BMPs. Additional BMPs may be developed between the CDFW CalOES contact and the CalOES contractor.

5.3.1 Anadromous Salmonids (statewide distribution)

When project activities need to be conducted within or adjacent to current and historical watercourses that support anadromous salmonids (https://www.calfish.org/ProgramsData/Species/AnadromousFishDistribution.aspx), consultation with the qualified biologist and the CDFW CalOES contact should occur during the project planning phase to ensure appropriate work windows are observed and habitat features essential to anadromous salmonids are retained. These features include properly placed and sized in-stream large woody debris, gravel beds consisting of gravel between 5.4 and 78 mm in diameter used for spawning, erosion controls on banks that have experiences high vegetation loss, in-stream pools with high structural complexity, and riparian vegetation. Project activities should avoid dewatering or sedimentation within these essential habitat elements.

5.3.2 Raptors (statewide distribution)

Raptor breeding season varies with geographic location and elevation, but generally occurs between February and August. When project activities during that timeframe include removal of trees, the trees marked for removal should be evaluated according to CDFW BMP measure 4.5.4 and measure 4.5.5. During the evaluation, if trees with evidence of raptor roosting, perching, feeding, or nesting are discovered, those trees should be retained, if possible. If an active raptor nest is discovered, a 200-meter disturbance-free buffer around the nest should be established until the qualified biologist or CDFW CalOES contact determine the nest has failed or the young have fledged.

5.3.3 Spotted Owl, Northern and California subspecies (All current fires)

Prior to any tree removal, the project area, and adjacent parcels (within 0.7 miles) should be evaluated for any known Spotted Owl Activity Centers (AC) utilizing CDFWs Spotted Owl Database (https://wildlife.ca.gov/Data/CNDDB/Spotted-Owl-Info). If the project area sustained a high to severe burn intensity and an AC is known within or adjacent to the project area, retain the AC and nest tree(s) in addition to adjacent screen trees if feasible. CDFW should be contacted for consultation for any ACs that appear to no longer function as habitat.

If the project area sustained low to moderate burn intensity and an AC is known within or adjacent to the project area, avoid work during the breeding season, February 1 to July 31, and retain the AC and nest tree(s) in addition to adjacent screen trees if feasible. If work cannot be completed outside of the breeding season, CDFW should be contacted for consultation and additional measures may be developed.

For known ACs that were **not** compromised during the fire, seasonal disturbance buffers (1/4 mile) should be observed for occupied sites during the breeding season (Feb 1-July 31) or at least until protocol surveys support probable absence, non-nesting, nest failure, or fledgling flight can be determined. No operations, other than the use and maintenance of existing roads, should occur with 1,000 feet of any occupied NSO AC. If NSO are heard or observed during timber operations, all operations should cease and CDFW should be contacted for consultation.

5.3.4 Swainson's Hawk (Beckworth Fire in Lassen and Plumas counties).

If suitable habitat exists within the project area or along access routes, nest surveys should be conducted between April 1 and July 15 according to the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (survey protocol is available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83991&inline).

5.3.5 Foothill Yellow Legged Frog (Caldor, Dixie, McFarland, and Monument Fires in Butte, El Dorado, Lassen, Plumas, Shasta, Tehama, and Trinity counties).

If work needs to be conducted within or adjacent to suitable foothill yellow-legged frog habitat, the work should occur between October 1 - December 31 to avoid impacts to frogs. If work must be conducted outside this window, a qualified biologist should inspect the work site for frogs in any life stage. If found during inspections, a buffer should be established, and exclusion fencing should be erected between the work area and the frog habitat. If work must occur within the habitat, CDFW should be contacted for coordinating avoidance measures prior to work starting.

5.3.6 Willow Flycatcher (Dixie Fire in Butte, Lassen, Plumas, and Tehama counties).

If work needs to be conducted within or adjacent to riparian habitat with potential suitability for the Southwestern willow flycatcher, work should be conducted between September 15 and March 15. If work must occur outside this window, a qualified biologist should evaluate the project area and adjacent areas for habitat suitability for the southwestern willow flycatcher. If the qualified biologist determines that suitable habitat for either species exists CDFW should be contacted for coordinating avoidance measures prior to work starting.
Applicable Regulations

5.3.7 Bank Swallow (Antelope, Beckwourth, and Dixie Fires in Butte, Lassen, Plumas, Siskiyou, Tehama counties)

If work needs to be conducted within or adjacent to suitable bank swallow habitat, the work should occur between August 31 – March 15 to avoid impacts to nesting colonies. If work must be conducted outside this window, a qualified biologist should inspect the work site for established colonies and to ensure a 200-foot ELZ is established around an active colony. Where bank stabilization measures must be applied to suitable habitat, methods that preserve the dynamic river process should be used. To locate known colony locations the project proponent should consult with CDFW prior to work starting, and reference http://www.sacramentoriver.org/bans.

Associated and Applicable California Fish and Game Code (CFGC) sections:
CFGC § 1600 (et seq.); Lake or Streambed Alteration Agreement, notification of significant alteration to stream channel, bank, or bed.
CFGC § 5650 and § 5652; Deposit of deleterious material into waters of the state.
CFGC § 5901; Fish passage.
CFGC § 5937; Sufficient water for fish.
CFGC § 5948; Obstruction of stream.
CFGC § 2050-2115.5; California Endangered Species Act (CESA); prohibition of the take of any species designated as Endangered, Threatened, or candidates for listing.
CFGC § 3503 and § 3503.5; Protection for bird nests and eggs and birds of prey.
CFGC § 86 where "Take" shall be avoided. Take is defined as to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

6.0 EXHIBITS

6.0 EXHIBITS

2021 Statewide Fires
Exhibit 6.1 - CAL FIRE Forest Practice Rule 1052.1.b. Exemption
Exhibit 6.2 - CDFW CalOES and Cal Recycle Statewide Contacts
Exhibit 6.3 - CDFW 2021 Statewide Fires Habitats and Special Status Species Impacted, by Fire Name, CDFW Region, and County (dated 09.08.2021)

Department of
Resources Recycling and Recovery

To: Wade Crowfoot
Secretary
California Natural Resources Agency

Date: 23 April 2021

From: Jared Blumenfeld
Secretary
California Environmental Protection Agency

Rachel Machi Wagoner
Executive Director
CalRecycle

Subject: **EMERGENCY WAIVER OF CERTAIN FOREST PRACTICE RULES IN SUPPORT OF HAZARD TREE REMOVAL RECOVERY OPERATIONS FOR THE 2018 CAMP FIRE & 2020 WILDFIRE RECOVERY OPERATIONS**

The Governor's Office of Emergency Services (CalOES) mission tasked the Department of Resources Recycling and Recovery (CalRecycle) to conduct structural debris and hazard tree removal following to the devastating wildfires that occurred across the State in 2018 and 2020. As part of that effort, CalRecycle requests the California Natural Resources Agency (CNRA), with the support of the California Department of Forestry and Fire Protection (CALFIRE), to waive certain Forest Practice Rules requirements (In-Lieu Practices, Emergency Notices, and Archaeological Requirements) to support multiple ongoing recovery operations.

CalRecycle makes this request pursuant to Governor's Executive Orders B-57-18, B-58-18,N-81-20 (Executive Orders), and any concurrent or subsequent proclamations or executive orders related to the 2020 fires. CalRecycle believes protocols developed to meet Federal Emergency Management Agency (FEMA) requirements, including but not limited to Stipulation II.B.2.v. of the FEMA/California Programmatic Agreement (FEMA Protocols) meet or exceed the intent of the subject Forest Practice Rules. By design and necessity, the FEMA Protocols rely on a system of continuous field monitoring, communication, consultations, reconnaissance, and documentation, supported by final reporting product(s). Whereas the Forest Practice Rules generally require upfront notifications to CALFIRE of the same or similar information. The requested waivers are intended to resolve this process incongruity and expedite recovery operations.

2018 CAMP FIRE & EXECUTIVE ORDER – HAZARD TREE REMOVAL
During November of 2018, the Camp Fire affected large areas of Butte County, destroyed over 12,000 structures, burned more than 300,000 trees, and resulted in 85 casualties. On November 14, 2018, the Governor issued Executive Order B-57-18, following with Executive Order B-58-18 suspending a variety of environmental

protection statutes as they relate to the wildfire recovery effort. Recovery Operations for this event is referred to as the State Hazard Tree Removal Program (DR-4407).

2020 FIRES (DR-4558 & DR-4569) & EXECUTIVE ORDER – HAZARD TREE REMOVAL
During July, August, and September of 2020, hundreds of wildfires raged across the state, many a direct result of over 14,000 dry lightning strikes during an August storm event. The fires destroyed over 10,000 structures across the state, and resulted in 31 casualties.

On September 25, 2020, the Governor issued Executive Order N-81-20 , suspending a variety of environmental protection statutes to the extent they would prevent, hinder, or delay certain wildfire recovery efforts. The Executive Order authorizes the Secretaries of the CalEPA and the CNRA to use their discretion to ensure the suspension serves the purpose of accelerating the removal and cleanup of debris from the fires and for implementing any restoration plan while at the same time protecting public health and the environment. They may do so by granting waivers or permits necessary for timber harvesting and for other actions necessary for the protection of public health and the environment. Recovery Operations for these events are ongoing in multiple counties throughout California and are referred to as Private Property Debris Removal for the 2020 Fires (DR-4558 and DR-4569). These Operations include a hazard tree removal function similar to the State Hazard Tree Removal Program for the 2018 Camp Fire (DR-4407).

> *This Order shall apply to but is not necessarily limited to: solid waste facility permits, waste discharge requirements for storage and disposal; emergency timber harvesting; stream environment zones; emergency construction activities; and waste discharge requirements and/or Water Quality Certification for discharges of fill material or pollutants. Boards, departments and offices within the California Environmental Protection Agency and the California Natural Resources Agency shall exercise their administrative discretion and expedite the granting of other authorizations, waivers or permits necessary for the removal, storage, transportation and disposal of hazardous and non-hazardous debris resulting from the fires, and for other actions necessary for the protection of public health and the environment.* [Executive Order N-81-20]

Separately, the Governor issued proclamations that either incorporated the Executive Order's suspension provisions by reference or that included identical provisions. This waiver is intended to apply to the State's 2020 fire disaster recovery efforts, authorized by Executive Order N-81-20, plus concurrent and subsequent proclamations and executive orders related to the 2020 fires.

FEMA PROTOCOLS SUMMARY
Current operations employ the following general tasks pursuant to the FEMA Protocols:

- Initial research on surveys and sites conducted and found in the past by contacting the local Archaeological Information Center for that data

- Networking with Native American Tribal Monitors for assistance in surveying and monitoring existing and newly discovered sites
- Collecting potential new site discoveries from biologist, arborist and forester conducting field work
- Conducting surveys within the project area.
    - Inputting that data into a data collection program.
    - All new and existing sites are considered significant on most projects.
    - Includes feature and site description, drawings, photos, measurements.
    - Collecting feature points lines and regions in Arc Collector.
- Forwarding that information to the Lead Archaeologists for the Operation
    - Lead Archaeologists develop protection measures and mitigations to preserve the integrity of the sites. Protection measures are discussed with tree removal contractors, to determine if hazard trees can be feasibly removed while maintaining the protection and integrity of features and sites.
- Field Archaeologist flag site boundaries immediately before commencement of operations within an assigned runway (project work area)
- Tribal Representatives are engaged and involved by being on site when tree removal operations are conducted near prehistoric archaeology sites.
- Tree removal contractors can ask monitors questions about removing trees adjacent to features and sites.
- After all field surveys are complete, contract archaeologist begin to compile California Department of Parks and Recreation (DPR) Primary Records, Site Records, Sketch Maps Linear Feature Records, District Records, and Location Maps.
- Final site records are sent to FEMA for Final Review and approval. FEMA refers to this process as an “After Action Plan”
- Final approved DPR records are submitted to the CA Office of Historic Preservation for distribution to the appropriate Information Center throughout the state.

CONFIDENTIAL ARCHAEOLOGICAL LETTER (CAL) WAIVER REQUEST

The Hazard Tree Removal Program (DR-4407) FEMA Protocols rely on adherence to an Archaeological Treatment Plan (ATP) developed with the support of the Federal Emergency Management Agency (FEMA) and in accordance with Stipulation II.B.2.v. of the FEMA/California Programmatic Agreement. Execution of the ATP meets or exceeds the minimum requirements administered by CALFIRE Archaeological Program as it relates to surveying, documenting, and protection of prehistoric and historic sites through avoidance, minimization, mitigation, and consultation with Federally Recognized Tribes. Further, ongoing Operations integrate consultation with California Tribes. Together, the ATPs and ongoing regular programmatic Operational coordination with California Tribes meets consultation requirements set forth by California Assembly Bill 52 (AB-52), and Executive Order B-10-11 (E.O. B-10-11). Tribal Partners are active, vital, and integral members supporting recovery efforts in the field. CalRecycle shall comply with the CalEPA Tribal Consultation Protocol.

Due to the rapid response timeframe, the 2020 Fire (DR-4558 & DR-4569) Operations are not supported by a formal ATP. Rather, standard operating procedures established by the Incident Management Teams and informed by conversations with CalRecycle contracted Registered Professional Forester(s) substantially follow similar requirements set forth in the FEMA Protocols for the State Hazard Tree Removal Program (DR-4407). The following document, administered via the terms and conditions in respective CalRecycle contracts, in aggregate represent the "FEMA Protocol" requirements for the 2020 Fire (DR-4558 &DR4569) Operations:

1. *Private Property Debris Removal for wildfires within multiple counties FEMA-4558-DR-CA and FEMA-4569-CA – Private Property Debris Removal Expedited Review for Emergency Undertakings Final Decision Regarding Treatment Measures to Resolve Potential Adverse Effects, in Accordance with Stipulation II.B.2.v. of the FEMA/California Programmatic Agreement*

PROCESS FOR DEMONSTRATION OF EQUIVALENT COMPLAINCE
To demonstrate compliance with the intent of the subject regulations, CalRecycle's contracted Registered Professional Forester(s) of record will prepare "Compliance Letters" describing measures employed to address the intent of the relevant Forest Practice Rules requirements. At a minimum, Compliance Letters address the following elements:

1. Acknowledge and affirm continued implementation of current Operational practices pursuant to the FEMA Protocols and Standard Operating Procedures for each recovery operation; and
2. Describe the consultation with the local CALFIRE Unit inspector as set forth in the 25 January 2021 CALFIRE memorandum, *Guidelines for the Removal of Federal Emergency Management Agency (FEMA) Hazard Trees under the Forest Practice Rules*.

REQUEST FOR WAIVER OF REGULATIONS
In accordance with the Executive Orders, CalRecycle requests waiver of the following "In Lieu Practices," "Emergency Notice," and "Confidential Archaeological Letter" regulations for the State Hazard Tree Removal Program (DR-4407) and Private Property Debris Removal for the 2020 Fires (DR-4558 and DR-4569):

1. Title 14 California Code of Regulation (14 CCR) sections 916.1, 936.1, 956.1 (et seq) In Lieu Practices [All Districts]. In rule sections where provision is made for site specific practices to be proposed by the RPF, approved by the Director and included in the THP in lieu of a stated rule, the RPF shall reference the standard rule, shall explain and describe each proposed practice, how it differs from the standard practice, and the specific locations where it shall be applied; and shall explain and justify how the protection provided by the proposed practice is at least equal to the protection provided by standard rule.;

2. Title 14 CCR section 1104.1(h) where in-lieu practices for Watercourse and lake protection zones as specified under Article 6 of the Forest Practice Rules (FPRs), exceptions to FPRs and alternative practices are not allowed, including the following:
    a. Bridging watercourses with trees that cannot be jacked and/or pulled away from the watercourse
    b. Operating equipment within the WLPZ in order to lift a bridged tree off the bed, bank or channel;
    c. Operating equipment within the WPLZ to conduct shovel logging (swing) and forwarder yarding operations;
    d. Permitting use of equipment within existing WLPZ landings; and
    e. Designated temporary crossings on all watercourse classes (temporary bridges, Spitler Crossings, Humboldt Crossing, Corrugated Log Crossings, Vented Rock Ford Crossings).
3. Title 14 CCR section 1052(a)(10) where a Confidential Archaeological Letter must be prepared for emergency notices 3 acres and larger. The FEMA Protocols are substantively equivalent to the CALFIRE Archaeological Program in terms of surveying, documenting, and protecting prehistoric and historic sites. The two strategies have different pathways to accomplish the same goals;
4. Title 14 CCR section 929.1 (949.1, 969.1)(f)(1)(B) (Emergency Notices of Less than 3 Acres) where a copy of the emergency notice must be sent to Native Americans;
5. Title 14 CCR section 929.1 (949.1, 969.1)(f)(3) (Emergency Notices of Less than 3 Acres) where Timber Operations are not allowed within the boundaries of any significant archaeological or historical sites as determined by the Registered Professional Forester (RPF) or the RPF's supervised designee;
6. Title 14 CCR section 929.2 (949.2, 969.2)(et seq.) – Protection measures for Plans and Emergency Notices 3 acres and Larger; and
7. Title 14 CCR section 929.3 (949.3, 969.3)(et seq.) – Post Review Site Discovery. The FEMA Protocols are substantively equivalent to the Cal Fire requirements as it relates to surveying, documenting, and protecting prehistoric and historic sites. Waiver of these regulations allows contract archaeologist to survey, record, implement immediate protection measures for sites and resources and finally report on new discoveries (i.e., Post Review Site Discovery).

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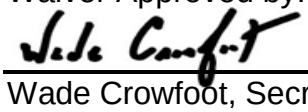
These waivers are necessary to suspend applicable procedural and substantive requirements, including notice and fee provisions that would otherwise delay hazard tree removal operations.

Waiver Approved by: 4/23/2021



Wade Crowfoot, Secretary Date

California Natural Resources Agency

Cc: Ken DaRosa, CalRecycle, Deputy Directory
Tina Walker, CalRecycle, Deputy Director Debris Recovery Operations

M e m o r a n d u m

To: Regional Resource Managers

Date: January 25, 2021

Telephone: (916) 653-9422

Website: www.fire.ca.gov

Dennis Hall

From: Dennis Hall
Assistant Deputy Director
California Department of Forestry and Fire Protection (CAL FIRE)

Subject: Guidelines for the Removal of Federal Emergency Management Agency (FEMA) Hazard Trees under the Forest Practice Rules

As a result of the significant damage associated with wildfires last year, Cal Recycle and CalOES will be utilizing the services of Registered Professional Foresters and Licensed Timber Operators for the removal of FEMA hazard trees that threaten public assets or that are an imminent threat to Debris Removal Crews. The following guidelines on timber operations and appropriate noticing under the Forest Practice Rules are intended to help facilitate efficient hazard tree removal associated with this work. All timber operations associated with these projects are subject to the Rules and must be conducted in conformance with the Rules.

A list of Hazard Tree Removal Options for Cal Recycle has been attached for information. When a Post-Fire Recovery Exemption is submitted, it requires a signature by the Timberland Owner. A Right-of-Entry Permit (ROE) with the landowner's signature must be attached to satisfy this requirement. An example of a ROE is attached. Property Owners must complete an ROE Permit and provide the proper paperwork to enroll in the Government Program.

As necessary, the Units shall ensure all operational provisions of the Rules are being adhered to during operations. Please ensure all Unit Forest Practice Inspectors and Region Review Team staff receive a copy of this memo. If you have any questions regarding CAL FIRE's expectations for these projects, please contact Staff Chief Eric Huff at (916) 653-0719 or Eric.Huff@fire.ca.gov.

GUIDELINES FOR THE REMOVAL OF FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) HAZARD TREES UNDER THE FOREST PRACTICE RULES

SCOPE OF WORK:

1. The removal of FEMA hazard trees that threaten public assets.
2. The removal of hazard trees that are an imminent threat to the Debris Removal Crew.

PRE-OPERATIONAL MEETING:

Prior to initiating operations in a CAL FIRE Administrative Unit, it is essential that a meeting occurs between the Unit Forester, Licensed Timber Operator, assigned private RPF, Cal Recycle, and CalOES representatives to discuss site specific details pertaining to operations and permitting.

TIMBER HARVEST DOCUMENTS RECOMMENDED:

1. For the removal of FEMA hazard trees that threaten public assets; the Public Agency, Public and Private Utility Right-of-Way Exemption (14 CCR § 1104.1(b) & (c)) is the appropriate document to meet most of the requirements.
2. For the removal of hazard trees that are an imminent threat to the Debris Removal Crew; most circumstances may be covered utilizing the Public Agency, Public and Private Utility Right-of-Way Exemption (14 CCR § 1104.1(b) & (c)).
3. For specific situations that are not covered by the Right-of-Way Exemption, where hazard trees are an imminent threat to the Debris Removal Crew and are located within 300 feet of an approved and legally permitted structure that was damaged or destroyed by wildfire; the Post-Fire Recovery Exemption (14 CCR § 1038(g)) may be utilized.
4. For specific situations where in-lieu or alternative practices are needed, a Notice of Emergency Timber Operations (14 CCR § 1052) is recommended.

REQUIREMENTS:

1. The Public Agency, Public and Private Utility Right-of-Way Exemption (14 CCR § 1104.1(b) & (c)) allows additional clearance for the removal of Danger Trees that are in areas adjacent to the right-of-way. It is the Department's expectation that professional discretion by Registered Professional Foresters or Arborists is utilized when identifying danger trees in adjacent areas.
2. When in-lieu, exceptions or alternative practices are needed, these operations must be necessary to protect public health and safety. A consultation with the local Unit CAL FIRE Forest Practice Inspector is recommended prior to submitting an Emergency Notice with in-lieu, exception or alternative practices.
3. The Post-Fire Recovery Exemption requires a signature by the Timberland owner. When submitting a Post-Fire Recovery Exemption, attach the Right-of-Entry Permit (ROE) with the landowner's signature to satisfy this requirement. Only Page 1 of the ROE Permit should be attached, as it contains the certification that the signatory is the landowner.
4. For operations under the Public Agency, Public and Private Utility Right-of-Way Exemption (14 CCR § 1104.1(b) & (c)) the use of an ArcGIS Collector application is an acceptable means for displaying information such as watercourse locations, sensitive areas, and parcel data, provided CAL FIRE Forest Practice Inspectors have access to the information for compliance inspection purposes.
5. When filling out the Right-of-Way Exemptions,For the "Contact" and Public Utility, the following contact information should be used when filling out Right-of-Way Exemptions:

Department of Resources, Recovery, & Recycling (CalRecycle)
1001 I Street
Sacramento, California 95814

cc: Deputy Director, Resource Management
Staff Chief, Forest Practice

Attachments: Hazard Tree Removal Options for Cal Recycle
Right-of Entry (ROE) Permit Example

HAZARD TREE REMOVAL OPTIONS FOR CALRECYCLE

	EXEMPTIONS		EMERGENCY
PERMIT OPTIONS	POST-FIRE RECOVERY EXEMPTION (14 CCR § 1038(g))	PUBLIC AGENCY, PUBLIC AND PRIVATE UTILITY RIGHT OF WAY EXEMPTION (14 CCR § 1104.1(b) & (c))	NOTICE OF EMERGENCY TIMBER OPERATIONS (14 CCR § 1052)
RPF REQUIRED?	NO, if within the scope of a Gubernatorial state of emergency or executive order (14 CCR § 1038(g)(2))	NO	YES
AREA/ACREAGE LIMITATIONS	Trees within 300 feet of an Approved and Legally Permitted Structure, damaged, or destroyed. (14 CCR § 1038(g)(1))	NONE	NONE
SILVICULTURE/ STOCKING	NONE	NONE	NONE
DIAMETER LIMIT	Maximum 60" SH for Redwood 48" SH for Other Species (14 CCR § 1038.1(c)(15))	The harvesting of large old trees are limited by 14 CCR § 1104.1(i)(1) & (2)	NONE
SURFACE/LADDER FUELS TREATMENT	All slash within 150 feet of a structure shall be treated or removed and a maximum depth of 18" in the rest of the harvest area; completed within 45 days, except burning (14 CCR § 1038(g)(4)&(5))	None specific to the exemption. Must comply with existing hazard reduction requirements of 14 CCR 917 [937, 957] *et seq.*	None specific to the emergency notice. Must comply with existing hazard reduction requirements of 14 CCR § 917 [937, 957] et seq.
ARCHAEOLOGY REQUIREMENTS	No timber operations in a significant archaeological or historical site; exceptions apply (14 CCR § 1038.1(c)(3))	No timber operations in a significant archaeological or historical site.	For notices greater than 3 acres, RPF shall submit a confidential archaeological letter (14 CCR § 1052(a) (10)) For notices less than 3 acres see 14 CCR § 929.1 [949.1, 969.1] (f)
APPROVAL TIME	5 working days from the Director's receipt of the notice. (14 CCR § 1038.1(c)(13))	5 working days from the Director's receipt of the notice.	5 working days from the Director s receipt of the notice. (14 CCR § 1052(d))
EFFECTIVE PERIOD	1 year (14 CCR § 1038)	1 year	1 year (14 CCR § 1052 (e))
OTHER INFORMATION	Shall include a seven-and-one-half minute USGS quadrangle map, or equivalent depicting the Harvest Area boundaries.	NONE	Shall include a USGS or equivalent map showing the harvest area, legal description, roads, watercourse location and classification, and yarding systems if more than one will be used. 14 CCR $ 1052(a)(4)

ABBREVIATIONS

PRC PUBLIC RESOURCES CODE
CCR CALIFORNIA CODE OF REGULATIONS
FPR FOREST PRACTICE RULES
RPF REGISTERED PROFESSIONAL FORESTER
LTO LICENSED TIMBER OPERATOR
DBH DIAMETER AT BREAST HEIGHT
WLPZ WATERCOURSE LAKE PROTECTION ZONE
ARCH ARCHAEOLOGICAL

**SEE 14 CCR §§ 913.4[933.4, 953.4], 916.9[936.9, 956.9], 1038, 1038.1, 1038.2, AND 1052 FOR ADDITIONAL CONDITIONS AND REQUIREMENTS.
***ALL ACTIVITIES MAY BE SUBJECT TO ADDITIONAL PERMITTING REQUIRMENTS

North Complex Recovery Right-of-Entry (ROE) Permit Checklist for Property Owners

Property Owners must complete an ROE Permit and provide the proper paperwork to enroll in the Government Program. Please follow the checklist below to make sure you have all the necessary documents to submit the ROE Permit. **Applications will not be approved until all required information is received. Please only submit ONE ROE per property.**

Documents needed for submittal of the ROE Permit:

- ☐ ROE Permit for Debris Removal and/or Hazard Tree Removal on Private Property
- ☐ Government Issued ID (Driver's License/Passport)
- ☐ Insurance Policy:
  - ☐ Declaration page
  - ☐ Debris and/or Hazard Tree Removal coverage section/page
  - ☐ Assessor's Parcel Number (APN)
- ☐ Signature of all Property Owners, Trustees or Power of Attorney
- ☐ Trust or LLC Documents (ONLY if applicable)
  - ☐ 1st Page of Trust & Pages naming Trustees
  - ☐ Signature Authorization page
  - ☐ Power of Attorney signature page
  - ☐ Any other relevant pages
- ☐ Signed and notarized document for authorized agent (ONLY if Property Owner is not signing)

All trustees or signatories must sign the ROE Permit for Debris and/or Hazard Tree Removal on Private Property

ROE Permits may be submitted:

IN PERSON:
78 Table Mountain Blvd.
Oroville CA 95965

MAIL:
PO Box 1708
Oroville, CA 95965-1708

E-MAIL:
ROE@ButteCounty.net

FOR MORE INFORMATION CALL:
530.552.3210

Property Owned by 1 or more Individuals

All Owners listed on the title of the home must:

- Sign the ROE Permit for Debris and/or Hazard Tree Removal on Private Property
- Show Government Issued ID (Driver's License/Passport)
- Sign and notarize document for authorized agent (ONLY if Property Owner is not signing)

Property Owned by a Trust, LLC, or other Legal Entity:

If a home is owned by a trust, LLC or other legal entity, please bring:

- First page of the trust, LLC or other agreement
- Signature Authorization page/Pages naming Trustees
- Power of Attorney signature page
- Any other relevant pages

County of Butte
ROE Center
P.O. Box 1708
Oroville, CA 95965-1708
Phone: 530-552-3210
Email: ROE@ButteCounty.net

Name of Owner(s)/Agent: _____

_____

_____

Phone Number of Owner(s)/Agent: _____

Email of Owner(s)/Agent: _____

Property Address: _____

Assessor's Parcel No. (APN): _____

Right-of-Entry Permit for Debris and/or Hazard Tree Removal on Private Property

I / we, _____,
certify that I am / we are the owner(s), or authorized agent of the owner(s), of the real property located at the above address (hereinafter "Owner"). I hereby certify that I have full power and authority to execute this Right of Entry Permit (ROE) without the need for any further action, including, but not limited to, notice to or approval from any other party.

I / we hereby grant Butte County ("County"), as well as the State of California ("State"), and the Federal Government, and their officers, employees, agencies, and independent contractors (collectively, the "Government"), a ROE upon the real property specified above by address and APN (hereafter the "Property") and will guarantee access to the property for the activities described herein.

1. **Time Period:** This ROE shall expire 36 months after the date of the Owner's signature(s), below, or when the Debris and Hazard Tree Removal activities described below are complete, as determined in the sole discretion of the Government, whichever date is sooner.

2. **Purpose:** The Government is granted this ROE to inspect, cut, test, remove, and clear wildfire-generated debris of whatever nature including but not limited to burned or

partially burned structures, ash, concrete foundations, contaminated soil, vehicles, trailers, waste, hazard trees or other debris from the Property ("Debris and Hazard Tree Removal").

3. **Hazard Trees:** Hazard Trees are wildfire-damaged trees that have been so damaged by the fires that their structural integrity is compromised and that pose an immediate threat of falling onto work crews or obstructing their access to the debris clearance site, or falling onto a public right of way or public improved property. The Government has sole discretion on whether to take or leave the hazard trees, to determine whether a tree is hazardous, and to approve tree removal from private roads. Debris and Hazard Tree Removal does not include the removal of tree stumps.

4. **Authorized Activities:** Owner hereby grants to the Government, the right to determine, in the Government's sole discretion, which hazard trees, materials and items on the Property are eligible and will be removed for Debris and Hazard Tree Removal. Owner is responsible for removing, at Owner's expense, any items not eligible for Debris and Hazard Tree Removal. Owner's failure to remove items not eligible for Debris and Hazard Tree Removal may later be deemed a public nuisance by local officials.

5. **Reimbursement:** All Debris and Hazard Tree Removal activities are provided by the Government at no direct cost to Owner. However, the Owner agrees hereby to file an insurance claim if Owner possesses homeowner's, automobile, or property insurance. Most homeowner's insurance policies include coverage for Debris and Hazard Tree Removal. State and federal law require Owner to assign any Debris and Hazard Tree Removal insurance proceeds to the Government to avoid a duplication of benefits (42 USC § 5155; 44 CFR § 204.62). In consideration of the Government's agreement to perform Debris and Hazard Tree Removal, Owner agrees to inform the insurance company listed below of this assignment and agrees to release their insurance information to the Government. This ROE shall constitute Owner's compliance with California Insurance Code section 791.13 authorizing the insurance company to communicate directly with the Government regarding any and all insurance issues related to the Debris and Hazard Tree Removal.

Specified Debris and/or Hazard Tree Removal Insurance Coverage: If Owner's insurance in effect at the time of the wildfire provides specific coverage for Debris and Hazard Tree Removal, then Owner hereby assigns any and all rights, benefits, and proceeds with respect to these particular specific coverages to the County and hereby authorizes that any benefits or proceeds be paid directly and solely to County, in an amount not to exceed the actual cost of the Debris and/or Hazard Tree Removal. Owner shall not be liable for any further Debris and Hazard Tree Removal costs to County.

No Specified Debris and/or Hazard Tree Removal Insurance Coverage: If Owner's insurance in effect at the time of the wildfire does not provide specific and separate coverage for Debris and/or Hazard Tree Removal, but such coverage is included within another larger coverage category, then payment to County shall be limited to the unused benefit amount, after the residence is rebuilt. Owner hereby assigns any and all rights, benefits, and proceeds of any unused benefit amount that is eligible for Debris and/or Hazard Tree Removal remaining in a larger coverage category to County, in an amount not to exceed the actual cost of the Debris and/or Hazard Tree Removal.

Specified Automobile Insurance Coverage: If Owner's automobile insurance in effect at the time of the wildfire provides specific coverage for vehicle removal, then Owner hereby assigns any and all rights, benefits, and proceeds with respect to these particular specific coverages to the County and hereby authorizes that any benefits or proceeds to be paid directly to County, in an amount not to exceed the actual cost of the vehicle removal. Owner shall not be liable for any further vehicle removal costs to County.

No Specified Automobile Insurance Coverage: If Owner's automobile insurance in effect at the time of the wildfire does not provide specific and separate coverage for vehicle removal, but vehicle removal coverage is included within another larger coverage category, then payment to County shall be limited to the unused benefit amount. Owner hereby assigns any and all rights, benefits, and proceeds of any unused benefit amount that is eligible for vehicle removal remaining in a larger coverage category to County, in an amount not to exceed the actual cost of the vehicle removal.

In the event the insurance company or companies listed below issue insurance proceeds for Debris and Hazard Tree Removal or vehicle removal directly to Owner, then Owner shall promptly inform the County of the amount of such proceeds and remit such insurance proceeds to County, not to exceed the actual cost of the applicable Debris and/or Hazard Tree Removal.

Homeowner's Insurance:

Insurance Company: _____

Policy Number: _____

Claim Number: _____

Agent's Name: _____

Agent's Phone / Email: _____

Secondary Insurance, or personal property insurance for other damaged items on the Property:

Insurance Company: _____

Policy Number: _____

Claim Number: _____

Agent's Name: _____

Agent's Phone / Email: _____

Automobile Insurance for car, boat, trailer or other vehicles on the Property:

Insurance Company: _____

Policy Number: _____

Claim Number: _____

Agent's Name: _____

Agent's Phone / Email: _____

If Owner does NOT have homeowner's and/or automobile insurance, or other similar insurance, then Owner certifies under penalty of perjury by his/her signature below that no insurance coverage for the costs associated with fire Debris and/or Hazard Tree Removal at the Property was in effect at the time of the wildfire:

_____	_____
Owner's signature	Date
_____	_____
Owner's signature	Date
_____	_____
Owner's signature	Date

Any property that is sold prior to issuance of the cleanup certification will be withdrawn from the program, unless both new and former Owners sign a property transfer affidavit. Costs for work completed will be billed to the insurance company listed above if applicable.

6. **Waiver of Liability:** Owner acknowledges that the Government's decisions about when, where, and how to provide Debris and Hazard Tree Removal services on Owner's property are discretionary functions. Owner hereby acknowledges that the Government is not liable for any claim based on the exercise or performance, or failure to exercise or perform, a discretionary function, and promises not to make such a claim. **Owner further releases and agrees to hold and save harmless the Government from all liability for any damage or loss whatsoever that may occur during or after performance of the Government's Debris and Hazardous Tree Removal activities. Please also see sections 10 and 11, below**. Owner therefore waives any claims or legal action against the Government. This indemnification is required by state and federal law, including the California Emergency Services Act, California Government Code section 8655, California Code of Regulations, Title 19, section 2925, and the Stafford Act, 42 United States Code, sections 5148 and 5173. Nothing in this section impacts the Owner's right to pursue claims with insurance companies under their applicable insurance policy or policies.

Owner agrees that the methodology for identifying and removing hazard trees, and other debris material, and the selection of personnel to identify hazard trees and other debris material, shall be at the sole discretion of the Government and Owner expressly waives and releases any claims in that regard. Owner expressly waives his or her rights to bring proceedings in law or equity against the Government with respect to the identification and/or removal of hazard trees and other debris material.

7. **Foundations:** In order to participate in this program, Owner must allow removal of all foundations from the subject Property. Stem walls and retaining walls may be left on a case-by-case basis, as approved by the State. Owner acknowledges and understands that the removal of a foundation may leave a depression in the ground, and that it is Owner's responsibility to fill any depression(s) following the removal of a foundation.

8. **Soil Sampling:** Debris removal includes taking soil samples in the debris footprint to ensure that all contaminants have been removed. If initial soil samples do not meet the cleanup goals for this project, then additional soil will be removed from the debris footprint and more soil samples will be taken. Owner acknowledges and hereby authorizes the Government to remove enough soil to ensure cleanup goals have been met. Owner acknowledges this may leave a depression on the Property and that it is Owner's responsibility to fill any depression left on the Property.

9. **Markings of Infrastructure Facilities:** Owner agrees to make their best efforts to mark subgrade utility lines (sewer, water, electricity, gas, cable, etc.), and to mark the location of septic tanks, leach fields, water wells, hand dug wells/cisterns, or other subgrade structures. Owner should carefully complete the attached *Property Information Form* **and append any maps, diagrams, or legible notes** that may be useful to the Government's contractor in locating subgrade structures and instructing the crews which items the Owner may want to remain on the Property following Debris and/or Hazard Tree Removal. The Government will endeavor to avoid all marked structures, however, Owner acknowledges pursuant to Section 6, they indemnify, hold and save harmless the Government from any damages to marked or unmarked structures.

10. **Driveway, Roadway and Other Incidental Damage:** Multi-ton excavators must perform much of the demolition, consolidation and loading of fire debris into trucks for removal to appropriate recycling and disposal and end use sites. The scale and weight of this equipment, and the weight of loaded trucks hauling debris out of fire-damaged neighborhoods, often exceeds the design capacity of residential driveways, sidewalks, and roadways. Crews will take reasonable precautions to mitigate against damage. However, Owner acknowledges cracking and damage to asphalt and concrete pavement is a common and unavoidable consequence, and is therefore considered incidental to Debris and Hazard Tree Removal. By signing this ROE and opting into the Government Debris and Hazard Tree Removal at this Property, the Owner acknowledges the risk of such incidental damage as well as responsibility for the cost of any repairs to private property or jointly-owned private roadways that may be caused by Government contractors in the performance of Debris and Hazard Tree Removal operations. Owner hereby promises to indemnify, hold and save harmless the Government from any repair claims described above, or any other incidental and unavoidable damage occurring as a result of routine operations

associated with such Debris and Hazard Tree Removal.

11. **Damage to Improved Property:** Debris and ash removal crews will attempt to minimize impacts to improved property that was not damaged by the fire. Owner may submit a complaint regarding any improved property that Owner believes was damaged during the Debris and Hazard Tree Removal operations at ROE@ButteCounty.net. However, Owner acknowledges Section 6 of this ROE limits the liability of the Government with respect to such damage, if any.

12. **Erosion Control:** Owner acknowledges that erosion control measures may be necessary, such as wattles and hydromulch, to stabilize soil on or about the Property. Such erosion control measures are at the sole discretion of Government.

13. **Modification:** The provisions of this ROE may not be modified. Owner may cancel this ROE only by submitting an executed *Withdrawal Form* to the County at ROE@ButteCounty.net (see below).

14. **Fraudulent or Willful Misstatement of Fact:** An individual who fraudulently or willfully misstates any fact in connection with this ROE may be subject to penalties under state and federal law, including civil penalties, imprisonment for not more than five years, or both, as provided under 18 United States Code, section 1001.

15. **Public Records Act:** Owner acknowledges that completed ROE forms may be subject to public disclosure under the California Public Records Act (Government Code section 6250 et seq.). Other state and federal laws may apply. While efforts will be made to redact personally identifiable information, such redactions will be made at the sole discretion of Government.

_____

Printed name of Owner or Agent

_____ _____

Signature of Owner or Agent Date

_____

Printed name of Owner or Agent

_____ _____

Signature of Owner or Agent Date

_____

Printed name of Owner or Agent

_____ _____

Signature of Owner or Agent Date

_____ _____

Phone number of Owner or Agent Email address of Owner or Agent

_____

Mailing address of Owner or Agent

Approved by County of Butte and verified that the Property, APN, and Owner are accurate and meet the eligibility requirements of program:

_____

Title and Printed name of County Representative

_____ _____

Signature of County Representative Date

Disaster Debris and Hazard Tree Removal Program
Property Information

Please identify all that apply on the Property:

Vehicles	Location	Description	Comments
Car			
Boat or Trailer			
Other vehicles (ATVs, motorcycles, trailers, vans, motorhomes, recreational vehicles, trailers, etc)			
Other (farm equipment, construction equip, etc):			

Underground Tanks	Location	Construction Date (If Known)	Comments
Septic[1] Tanks and Leach Fields			
Fuel/Oil[2]			
Water			
Other:			

1. Septic tanks will be pumped of all waste as part of the Debris and Hazard Tree Removal project only if they posed a hazard to crews.

2. Owner must provide documentation of ownership for large propane tanks to be removed.

Underground Structures	Location	Construction Date (If Known)	Comments
Basement			
Root Cellar			
Other (water wells, cisterns/dug wells, mine shafts, etc):			

Attach, Insert or Draw Map of Property

STOP HERE AND DO NOT FILL OUT THE BELOW PAGE UNLESS YOU WISH TO WITHDRAW FROM THE DEBRIS AND HAZARD TREE REMOVAL PROGRAM

Withdrawal Form

To cancel this ROE, this Withdrawal Form must be signed by the Owner, delivered to the ROE Center at P.O. Box 1708, Oroville, CA, 95965-1708 or ROE@ButteCounty.net, and acknowledged by an authorized employee in advance of Debris and Hazard Tree Removal activities at the Property. Allow at least three (3) days to process.

Alternatively, the ROE may be cancelled at the Property site ***by obtaining the signature of designated Butte County Representative present when the crew appears for work.*** Due to scheduling constraints, the Government cannot provide specific dates and times when they will be available at the Property site to accept a cancellation. Owner should therefore turn in the Withdrawal Form at the location designated by the County in the above paragraph if possible.

I have read and understand the foregoing statement concerning cancellation policies. I hereby certify that the Debris and Hazard Tree Removal at the Property has not yet commenced, and that I request to cancel the Right of Entry (ROE).

_____

Printed name of Owner or Agent

_____ _____

Signature of Owner or Agent Date

_____ _____

Phone number of Owner or Agent Email address of Owner or Agent

_____

Mailing address of Owner or Agent

I hereby acknowledge receipt of the foregoing request for cancellation:

_____

Title and Printed name of County Representative

_____ _____

Signature of County Representative Date

CAL FIRE Regional Unit Forester Contact List

Northern Region

AEU 2700	**Amador-El Dorado Unit** Thomas Tinsley, Forester II 530-647-5203 Thomas.Tinsley@fire.ca.gov	**LMU 2200**	**Lassen-Modoc Unit** Ivan Houser, Forester II 530-257-8503 Ivan.Houser@fire.ca.gov	**SCU 1600**	**Santa Clara Unit** Edgar Orre, Forester II 408-206-3704 Edgar.Orre@fire.ca.gov
BTU 2100	**Butte Unit** David Derby, Forester II 530-872-6334 Dave.Derby@fire.ca.gov	**LNU 1400**	**Sonoma-Lake Napa Unit** Kim Sone, Forester II 707-576-2344 Kim.Sone@fire.ca.gov	**SHU 2400**	**Shasta-Trinity Unit** Ben Rowe, Forester III 530-225-2432 Benjamin.Rowe@fire.ca.gov
CZU 1700	**San Mateo-Santa Cruz Unit** Richard Sampson, Forester II 831-335-6742 Richard.Sampson@fire.ca.gov	**MEU 1100**	**Mendocino Unit** Colby Forrester, Forester III 707-459-7452 Colby.Forrester@fire.ca.gov	**SKU 2600**	**Siskiyou Unit** Steve Wilson, Forester II 530-598-2604 Steve.Wilson@fire.ca.gov
HUU 1200	**Humboldt-Del Norte Unit** Chris Curtis, Forester III 707-726-1256 chris.curtis@fire.ca.gov	**NEU 2300**	**Nevada-Yuba-Placer Unit** David Ahmadi, Forester II 530-265-4589 Ext. 104 David.Ahmadi@fire.ca.gov	**TGU 2500**	**Tehama-Glenn Unit** Dawn Pederson, Forester II 530-528-5199 Dawn.Pederson@fire.ca.gov

Southern Region

BDU 3500	**San Bernardino Unit** David Haas, Forester I 909-881-6955 David.Haas@fire.ca.gov	**MMU 4200**	**Madera-Mariposa-Merced Unit** Brian Mattos, Forester I 209-742-1908 Brian.Mattos@fire.ca.gov	**SLU 3400**	**San Luis Obispo Unit** Alan Peters, Forester II 805-543-4244 Alan.Peters@fire.ca.gov
BEU 4600	**San Benito-Monterey Unit** Jonathan Pangburn, Forester I 831-333-2600 Jonathan.Pangburn@fire.ca.gov	**MVU 3300**	**San Diego Unit** Eric Just, Forester II 619-590-3103 Eric.Just@fire.ca.gov	**TCU 4400**	**Tuolumne-Calaveras Unit** Adam Frese, Forester II 209-754-2706 Adam.Frese@fire.ca.gov
FKU 4300	**Fresno-Kings Unit** Ryan Wimmer, Forester I 559-493-4307 Ryan.Wimmer@fire.ca.gov	**RRU 3100**	**Riverside Unit** Nochella Funes, Forester I 951-659-5257 Nochella.Funes@fire.ca.gov	**TUU 4100**	**Tulare Unit** David Shy, Forester II 559-732-5954 David.Shy@fire.ca.gov

Last updated January 3, 2020.Please send informational updates or changes to Breezy.Akeson@fire.ca.gov.

CalOES and CalRecycle Statewide Contacts

California Department of Fish and Wildlife

Regional Boundaries, 2021

Northern Region

Cary Japp
Sr. Environmental Scientist Supervisor
Cary.Japp@wildlife.ca.gov
Phone (530) 782-3149

North Central Region

Sarah Lose
Sr. Environmental Scientist Specialist
Sarah.Lose@wildlife.ca.gov
(916) 747-5226

Bay Delta Region

Robynn Swan
Sr. Environmental Scientist Specialist
Robynn.Swan@wildlife.ca.gov
Phone (707) 210-4467

Central Region

Margarita Gordus
Sr. Environmental Scientist Specialist
Margarita.Gordus@wildlife.ca.gov
Phone (559) 243-4014x236

South Coast

Audrey Kelly
Environmental Scientist
Audrey.Kelly@wildlife.ca.gov
Phone (562) 430-7882

Inland Deserts

Edith Martinez
Sr. Environmental Scientist Specialist
Edith.Martinez@wildlife.ca.gov
Phone (909) 239-1241

Headquarters

Elliot Chasin
Sr. Environmental Scientist Supervisor
Elliot.Chasin@wildlife.ca.gov
Phone (916) 206-0384

Due to COVID-19 teleworking restrictions, CDFW staff are most readily accessible via email

Jan 27, 2021

2021 Statewide Fires
Habitats and Special Status Species Impacted,
by Fire Name, CDFW Region, and County

Updated on 11/01/2021

For the most recent update to this document, please contact Elliot Chasin at Elliot.Chasin@wildlife.ca.gov

The species including in this summary are intended to be a guide and are not comprehensive, please consult with a California Department of Fish and Wildlife (CDFW) CalOES contact for up-to-date information.

The species included in this summary are the California Endangered Species Act (CESA) listed species, CESA Candidate species, CDFW Species of Special Concern, CDFW Fully Protected species, CDFW Watch List species, California Board of Forestry Sensitive Species, as well as plant species protected under the Native Plant Protection Act (NPPA) and plant species with California Rare Plant Ranks 1 and 2.

This list does not include solely Federally protected species, and to ensure compliance with federal regulations those species should be determined based on the federal Endangered Species Act and with guidance from the U.S. Fish and Wildlife Service.

For more information, please refer to CDFW's Special Animals List https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline, CDFW's Special Vascular Plants, Bryophytes, and Lichens List https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline, and CDFW's Fully Protected Animals list https://wildlife.ca.gov/Conservation/Fully-Protected.

Fire Name: Antelope Fire - ACTIVE
Containment: 95% as of 10/13/2021
CDFW Region: Northern Region
Counties: Siskiyou County
Acres Burned: 145,691 acres
Dominant Habitat Types:

- Conifer – 98,318 acres with Eastside Pine (25,595 ac), White Fir (19,522 ac), Ponderosa Pine (15,351 ac), Red Fir (14,609 ac), and Sierran Mixed Conifer (14,010 ac)
- Shrub – 36,054 acres with Bitterbrush (13,222 ac), Sagebrush (12,796 ac), and Montane Chaparral (7,218 ac)

Species:

- Amphibians: Cascades frog, southern long-toed salamander
- Birds: bald eagle, bank swallow, Northern spotted owl, California spotted owl, northern goshawk, prairie falcon, Great egret, Great blue heron, tricolored blackbird
- Fish: McCloud River redband trout
- Mammals: American badger, pallid bat, Townsend's big-eared bat

- Plants:
    - Bryophytes: Blandow's bog moss
    - Dicots: Little-leaved huckleberry

Fire Name: Beckwourth Complex/Sugar Fire - FINAL
Containment: 100% as of 10/27/2021
CDFW Region: Northern Region and North Central Region
Counties: Lassen and Plumas Counties
Acres Burned: 105,358 acres
Dominant Habitat Types:

- Conifer – 59,135 acres with Eastside Pine (42,363 ac), Sierran Mixed Conifer (14,120 ac), and Montane Hardwood-Conifer (1,778 ac)
- Shrub – 36,679 acres with Sagebrush (27,651 ac) and Montane Chaparral (9,027 ac)
- Herbaceous – 6,902 acres with Annual Grassland (6,756 ac) and Wet Meadow (146 ac)

Species:

- Amphibians: Sierra Nevada yellow-legged frog
- Birds: bald eagle, bank swallow, California spotted owl, long-eared owl, prairie falcon, Swainson's hawk, Great egret, Great blue heron
- Fish: mountain sucker
- Mammals: Townsend's big-eared bat, western white-tailed jackrabbit
- Plants:
    - Dicots: Bailey's ivesia, lance-leaved scurf-pea, lens-pod milk-vetch, Nevada daisy, Plumas ivesia, Plummer's clover, Pulsifer's milk-vetch, Schoolcraft's wild buckwheat, Sierra Valley ivesia, sticky pyrrocoma, Suksdorf's broom-rape, western seablite
    - Monocots: Nuttall's ribbon-leaved pondweed, Santa Lucia dwarf rush

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Fire Name: Caldor Fire - FINAL
Containment: 100% as of 10/24/2021
CDFW Region: North Central Region
Counties: Alpine, Amador, El Dorado, and Placer Counties
Acres Burned: 221,818 acres
Dominant Habitat Types:

- Conifer – 185,643 acres with Sierran Mixed Conifer (110,702 ac), Red Fir (37,096 ac), and Ponderosa Pine (15,033 ac)
- Shrub – 19,388 acres with Montane Chaparral (16,432 ac), and Mixed Chaparral (2,0467 ac)
- Hardwood – 6,427 acres with Montane Hardwood (6,321 ac)

Species:

- Amphibians: Foothill yellow-legged frog, Mount Lyell salamander, Sierra Nevada yellow-legged frog, southern long-toed salamander

- Birds: golden eagle, California spotted owl, Great gray owl, northern goshawk, willow flycatcher, Great egret, Great blue heron
- Insects: western bumble bee
- Mammals: American badger, California wolverine, Fisher, Pallid bat, Sierra Nevada mountain beaver, Sierra Nevada snowshoe hare
- Plants:
    - Dicots: Cup Lake draba, Parry's horkelia, watershield
    - Ferns: Mingan moonwort, scalloped moonwort, western goblin
    - Monocots: Davy's sedge, mud sedge, Pleasant Valley mariposa-lily, white-stemmed pondweed
- Reptiles: western pond turtle

Fire Name: Cache Fire - FINAL
Containment: 100% as of 08/23/2021
CDFW Region: North Central Region
Counties: Lake County
Acres Burned: 83 acres
Dominant Habitat Types:

- Shrub – 53 acres with Chamise-Redshank Chaparral (53 ac)
- Hardwood – 10 acres with Blue Oak Woodland (10 ac)
- Herbaceous – 8 acres with Annual Grassland (8 ac)

Species:

- Plants:
    - Dicots: few-flowered navarretia, Hall's harmonia

Fire Name: Dixie Fire/Fly Fire - FINAL
Containment: 100% as of 10/26/2021
CDFW Region: Northern Region and North Central Region
Counties: Butte, Lassen, Plumas, and Tehama Counties
Acres Burned: 963,487 acres
Dominant Habitat Types:

- Conifer – 801,508 acres with Sierran Mixed Conifer (498,674 ac), White Fir (93,160 ac), Red Fir (66,327 ac), Eastside Pine (59,050 ac), Ponderosa Pine (22,723 ac), Montane Hardwood-Conifer (17,664 ac), Jeffrey Pine (17,552 ac), and Lodgepole Pine (17,017 ac)
- Shrub – 93,252 acres with Montane Chaparral (61,129 ac), Sagebrush (26,637 ac), and Mixed Chaparral (3,681 ac)
- Herbaceous – 24,041 acres with Annual Grassland (13,698 ac), Wet Meadow (7,132 ac), and Perennial Grassland (3,202 ac)
- Hardwood – 21,147 acres with Montane Hardwood (14,580 ac) and Montane Riparian (5,696 ac)

Species:

- Amphibians: Cascades frog, Foothill yellow-legged frog, Sierra Nevada yellow-legged frog, southern long-toed salamander
- Birds: bald eagle, bank swallow, California spotted owl, great gray owl, greater sandhill crane, northern goshawk, osprey, prairie falcon, willow flycatcher, yellow rail, Great egret, Great blue heron
- Fish: chinook salmon – Central Valley spring-run ESU, hardhead
- Insects: western bumble bee
- Mammals: American badger, California wolverine, Fisher, Pallid bat, Sierra Nevada mountain beaver, Sierra Nevada red fox, Townsend's big-eared bat, western red bat
- Plants:
    - Bryophytes: broad-nerved hump moss, cylindrical trichodon, Lassen Peak copper moss
    - Dicots: adobe lomatium, Ahart's buckwheat, alder buckthorn, Bailey's ivesia, Barron's buckwheat, buttercup-leaf hemieva, Cantelow's lewisia, Caribou coffeeberry, Cascade alpine campion, Clifton's eremogone, closed-throated beardtongue, Constance's rockcress, cream-flowered bladderwort, cut-leaf anemone, dwarf resin birch, English sundew, ephemeral monkeyflower, Feather River stonecrop, fern-leaved monkeyflower, flat-leaved bladderwort, Follett's monardella, Lassen paintbrush, lens-pod milk-vetch, Lewis Rose's ragwort, little hulsea, long-leaved starwort, long-stiped campion, Macdougal's lomatium, marsh skullcap, marsh willowherb, Mildred's clarkia, Plumas ivesia, Plumas rayless daisy, Pulsifer's milk-vetch, pyrola-leaved buckwheat, rosy orthocarpus, Schoolcraft's wild buckwheat, Serpentine Canyon monkeyflower, Sierra Valley ivesia, snow fleabane daisy, Stebbins' monardella, sticky pyrrocoma, Suksdorf's milk-vetch, tall alpine-aster, tufted loosestrife, watershield, Webber's ivesia, Webber's milk-vetch, winged dock
    - Ferns: Mingan moonwort, northwestern moonwort, scalloped moonwort, upswept moonwort, western goblin
    - Monocots: American Scheuchzeria, California twisted spikerush, Davy's sedge, Dudley's rush, Geysers panicum, Liddon's sedge, mud sedge, northern coralroot, Nuttall's ribbon-leaved pondweed, Robbins' pondweed, Santa Lucia dwarf rush, Sheldon's sedge, Sierra blue grass, slender bulrush, slender Orcutt grass, water bulrush, white beaked-rush, white-stemmed pondweed, woolly-fruited sedge

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Fire Name: Fawn Fire - FINAL
Containment: 100% as of 10/02/2021
CDFW Region: Northern Region
Counties: Shasta County
Acres Burned: 8,582 acres
Dominant Habitat Types:

- Hardwood – 4,340 acres with Montane Hardwood (2,538 ac), and Blue Oak Woodland (1,378 ac)
- Conifer – 3,037 acres with Montane Hardwood-Conifer (1,462 ac), Douglas Fir (921 ac), and Ponderosa Pine (645 ac)

Species:

- Amphibians: Shasta salamander
- Mammals: Fisher
- Plants:
    - Bryophytes:
    - Dicots: Shasta snow-wreath, silky cryptantha

Fire Name: Fly Fire - FINAL (merged with Dixie Fire on 07/25/21)
Containment: no updates since merge with Dixie Fire on July 25, 2021
CDFW Region: North Central Region
Counties: Plumas County
Acres Burned: 5,087 acres
Dominant Habitat Types:

- Conifer – 4,545 acres with Sierran Mixed Conifer (3,898 ac) and Montane Hardwood-Conifer (359 ac)

Species:

- Birds: northern goshawk, California spotted owl, Great egret, Great blue heron
- Plants:
    - Dicots: Webber's ivesia

Fire Name: French Fire - ACTIVE
Containment: 99% as of 10/01/2021
CDFW Region: Central Region
Counties: Kern County
Acres Burned: 26,555 acres
Dominant Habitat Types:

- Conifer – 10,469 acres with Sierran Mixed Conifer (7,700 ac), Montane Hardwood-Conifer (1,956 ac), and Ponderosa Pine (814 ac)
- Hardwood – 7,758 acres with Montane Hardwood (7,213 ac)
- Shrub – 7,638 acres with Mixed Chaparral (7,097 ac)

Species:

- Birds: northern goshawk
- Plants:
    - Dicots: delicate bluecup, grey-leaved violet, Mojave tarplant, rose-flowered larkspur, Tulare cryptantha
    - Gymnosperms: Piute cypress
    - Monocots: Greenhorn fritillary, Shirley Meadows star-tulip

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Fire Name: Hopkins Fire - FINAL
Containment: 100% as of 09/20/2021
CDFW Region: Northern Region
Counties: Mendocino County

Acres Burned: 268 acres
Dominant Habitat Types:

- Hardwood – 194 acres with Montane Hardwood (177 ac) and Blue Oak-Foothill Pine (15 ac)
- Herbaceous – 30 with Annual Grassland (30 ac)
- Shrub – 26 acres with Mixed Chaparral (26 ac)

Species:

- No CNDDB records found

Fire Name: KNP Complex Fire - ACTIVE
Containment: 75% as of 11/01/2021
CDFW Region: Central Region
Counties: Tulare County
Acres Burned: 88,303 acres
Dominant Habitat Types:

- Conifer – 43,405 acres with Sierran Mixed Conifer (32,074 ac), White Fir (3,511 ac), Jeffrey Pine (3,352 ac), Red Fir (1,732 ac), and Ponderosa Pine (1,715 ac)
- Hardwood – 25,508 acres with Montane Hardwood (26,378)
- Shrub – 14,482 acres with Chamise-Redshank Chaparral (7,236 ac), Mixed Chaparral (4,190 ac), and Montane Chaparral (2,975 ac)

Species:

- Amphibians: foothill yellow-legged frog, southern mountain yellow-legged frog
- Birds: black swift, northern goshawk
- Mammals: California wolverine, Fisher - Southern Sierra Nevada ESU, Sierra Nevada mountain beaver, Sierra Nevada red fox, spotted bat, Townsend's big-eared bat
- Plants:
  - Bryophytes: Holzinger's orthotrichum moss
  - Dicots: copper-flowered bird's-foot trefoil, field ivesia, Kaweah monkeyflower, mouse buckwheat, Pierpoint Springs dudleya, Sequoia gooseberry, short-leaved hulsea, spiny-sepaled button-celery
  - Monocots: Abrams' onion, Bolander's woodreed, Munz's iris
- Reptiles: Northern California legless lizard, western pond turtle

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Fire Name: Lava Fire - FINAL
Containment: 100% as of 10/01/2021
CDFW Region: Northern Region
Counties: Siskiyou County
Acres Burned: 26,330 acres
Dominant Habitat Types:

- Conifer – 12,137 acres with White Fire (3,563 ac), Red Fir (2,902 ac), Eastside Pine (2,370 ac), and Juniper (1,509 ac)
- Shrub – 10,760 acres with Bitterbrush (7,845 ac) and Montane Chaparral (2,870 ac)

Species:

- Birds: Northern spotted owl, California spotted owl

- Mammals: Sierra Nevada red fox, Townsend's big-eared bat
- Plants:
    - Dicots: alkali hymenoxys, Cooke's phacelia, Modoc green-gentian, Mt. Eddy draba, pallid bird's-beak, Shasta orthocarpus, snow fleabane daisy

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Fire Name: McFarland Fire - FINAL
Containment: 100% as of 10/28/2021
CDFW Region: Northern Region
Counties: Shasta, Tehama, and Trinity Counties
Acres Burned: 122,453 acres
Dominant Habitat Types:

- Conifer – 59,601 acres with Klamath Mixed Conifer (31,588 ac), Douglas Fir (19,462 ac), Montane Hardwood-Conifer (2,933 ac), and Sierran Mixed Conifer (2,019 ac)
- Shrub – 35,362 acres with Mixed Chaparral (18,991 ac), Montane Chaparral (9,822 ac), and Chamise-Redshank Chaparral (6,549 ac)
- Hardwood – 24,866 acres with Blue Oak-Foothill Pine (14,244 ac), Montane Hardwood (7,388 ac), and Blue Oak Woodland (3,214 ac)

Species:

- Amphibians: foothill yellow-legged frog, Pacific tailed frog
- Birds: Northern spotted owl, California spotted owl, Great egret, Great blue heron
- Fish: chinook salmon - Central Valley spring-run ESU
- Plants:
    - Dicots: Jepson's dodder, Konocti manzanita, Mt. Tedoc leptosiphon, Mt. Tedoc stonecrop, Niles' harmonia, Oregon fireweed, Stebbins' harmonia
    - Monocots: northern meadow sedge
- Reptiles: western pond turtle

Fire Name: Monument Fire - FINAL
Containment: 100% as of 10/25/2021
CDFW Region: Northern Region
Counties: Trinity County
Acres Burned: 223,205 acres
Dominant Habitat Types:

- Conifer – 184,050 acres with Douglas Fir (135,829 ac), Montane Hardwood-Conifer (23,345 ac), Klamath Mixed Conifer (18,326 ac), and White Fir (4,319 ac)
- Hardwood – 24,533 acres with Montane Hardwood (23,480 ac)
- Shrub – 7,160 acres with Montane Chaparral (5,956 ac) and Mixed Chaparral (1,170 ac)

Species:

- Amphibians: foothill yellow-legged frog, Pacific tailed frog, southern torrent salamander
- Birds: northern goshawk, northern spotted owl, osprey, Great egret, Great blue heron
- Fish: chinook salmon - upper Klamath and Trinity Rivers ESU, summer-run steelhead trout

- Insects: western bumble bee
- Mammals: American badger, Fisher, Humboldt marten
- Mollusks: Trinity bristle snail
- Plants:
    - Bryophytes: buxbaumia moss, flagella-like atractylocarpus
    - Dicots: Canyon Creek stonecrop, Heckner's lewisia, Niles' harmonia, pink-margined monkeyflower, Trinity River jewelflower
    - Monocots: Regel's rush
- Reptiles: western pond turtle

Fire Name: River Complex Fire - FINAL
Containment: 100% as of 10/26/2021
CDFW Region: Northern Region
Counties: Siskiyou and Trinity Counties
Acres Burned: 199,543 acres
Dominant Habitat Types:

- Conifer – 163,652 acres with Klamath Mixed Conifer (64,290 ac), White Fir (28,548 ac), Douglas Fir (27,493 ac), Red Fir (22,910 ac), Subalpine Conifer (10,920 ac), and Montane Hardwood-Conifer (7,981 ac)
- Shrub – 24,178 acres with Montane Chaparral (21,714 ac) and Mixed Chaparral (1,537 ac)

Species:

- Amphibians: Cascades frog, foothill yellow-legged frog, Pacific tailed frog, southern long-toed salamander
- Birds: American peregrine falcon
- Fish: summer-run steelhead trout
- Mammals: California wolverine, fisher, Humboldt marten, Sierra Nevada red fox, Townsend's big-eared bat
- Plants:
    - Dicots: buttercup-leaf hemieva, Cascade grass-of-Parnassus, Heckner's lewisia, Jaynes Canyon buckwheat, little-leaved huckleberry, Lyall's tonestus, Marble Mountain campion, Mt. Eddy draba, Mt. Shasta sky pilot, Oregon fireweed, scabrid alpine tarplant, Scott Mountain bedstraw, Shasta chaenactis, showy raillardella, Siskiyou fireweed, Siskiyou phacelia, Tracy's beardtongue, Trinity Mountains rockcress, Wilkin's harebell
    - Monocots: Henderson's fawn lily
    - Gymnosperms: Subalpine fir

Fire Name: River Fire - FINAL
Containment: 100% as of 08/13/2021
CDFW Region: North Central Region
Counties: Nevada and Placer Counties
Acres Burned: 2,619 acres

Dominant Habitat Types:

- Hardwood – 1,157 acres with Montane Hardwood (1,127 ac)
- Conifer – 1,017 acres with Montane Hardwood-Conifer (541 ac)

Species:

- Amphibians: foothill yellow-legged frog, western spadefoot
- Birds: California spotted owl, Great egret, Great blue heron

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Fire Name: Tamarack Fire – FINAL (for fire within California boundary)
This fire crossed the California-Nevada border and is now being managed by NV. Acreage is specific to CA.
Containment: 100% as of 10/26/2021
CDFW Region: North Central Region
Counties: Alpine County
Acres Burned: 52,393 within CA
Dominant Habitat Types:

- Conifer – 26,011 acres with Pinyon-Juniper (9,160 ac), Eastside Pine (6,368 ac), Sierran Mixed Conifer (5,455 ac), and Jeffery Pine (2,495 ac)
- Shrub – 23,053 acres with Sagebrush (10,916 ac), Montane Chaparral (7,051 ac), and Bitterbrush (4,547 ac)

Species:

- Birds: great gray owl, California spotted owl, Great egret, Great blue heron
- Fish: mountain sucker, mountain whitefish
- Mammals: western white-tailed jackrabbit
- Plants:
    - Dicots: golden violet

Fire Name: Washington Fire - FINAL
Containment: 100% as of 09/01/2021
CDFW Region: Central Region
Counties: Tuolumne County
Acres Burned: 132 acres
Dominant Habitat Types:

- Hardwood – 89 acres with Blue Oak-Foothill Pine (85 ac), and Valley Foothill Riparian (4 ac)
- Shrub – 4 acres with Mixed Chaparral (4 ac)

Species:

- No CNDDB records found

Fire Name: Windy Fire - ACTIVE
Containment: 92% as of 10/31/2021
CDFW Region: Central Region
Counties: Tulare County
Acres Burned: 97,561 acres

Dominant Habitat Types:

- Conifer – 56,857 acres with Sierran Mixed Conifer (35,973 ac), Montane Hardwood-Conifer (8,983 ac), Red Fir (7,441 ac), and Ponderosa Pine (3,838 ac)
- Hardwood – 25,072 acres with Montane Hardwood (24,700 ac), and Blue Oak Woodland (325 ac)
- Shrub – 13,634 acres with Montane Chaparral (7,853 ac), Mixed Chaparral (5,765), and Montane Riparian (15 ac)

Species:

- Birds: black swift, northern goshawk
- Fish: Kern River rainbow trout
- Mammals: California wolverine
- Plants:
    - Bryophytes:
    - Dicots: copper-flowered bird's-foot trefoil, cut-leaf checkerbloom, grey-leaved violet, Madera leptosiphon, purple mountain-parsley, Tulare cryptantha, Twisselmann's buckwheat, Yosemite Lewisia
    - Monocots: Abrams' onion, Greenhorn fritillary, Kaweah brodiaea, Kaweah fawn lily, prairie wedge grass, Shirley Meadows star-tulip
- Reptiles: western pond turtle

SPECIES TABLE

CDFW/Other Key: CFPR = Board of Forestry Sensitive Species, **FP =** Fully Protected**, SSC =** Species of Special Concern**, WL =** Watch List

Sci NAME	Common NAME	TAXONGROUP 1	TAXONGROUP 2	CDFW T&E	CRPR	CDFW/ Other
Ambystoma macrodactylum sigillatum	southern long-toed salamander	Amphibians	Mole Salamanders	None		SSC
Ascaphus truei	Pacific tailed frog	Amphibians	Tailed Frogs	None		SSC
Hydromantes brunus	Mount Lyell salamander	Amphibians	Lungless Salamanders	None		WL
Hydromantes shastae	Shasta salamander	Amphibians	Lungless Salamanders	Threatened		
Rana boylii	foothill yellow-legged frog	Amphibians	True Frogs	Endangered		SSC
Rana cascadae	Cascades frog	Amphibians	True Frogs	Candidate Endangered		SSC
Rana muscosa	southern mountain yellow-legged frog	Amphibians	True Frogs	Endangered		WL
Rana sierrae	Sierra Nevada yellow-legged frog	Amphibians	True Frogs	Threatened		WL
Rhyacotriton variegatus	southern torrent salamander	Amphibians	Olympic Salamanders	None		SSC
Spea hammondii	Western spadefoot	Amphibians	Spadefoot Toads	None		SSC
Accipiter gentilis	northern goshawk	Birds	Hawks	None		SSC/CFPR
Agelaius tricolor	tricolored blackbird	Birds	Blackbirds	Threatened		SSC
Antigone canadensis tabida	greater sandhill crane	Birds	Cranes	Threatened		FP
Aquila chrysaetos	Golden eagle	Birds	Eagles	None		FP/CFPR
Ardea alba	Great egret	Birds	Egrets	None		CFPR
Ardea Herodias	Great blue heron	Birds	Herons	None		CFPR
Asio otus	long-eared owl	Birds	Owls	None		SSC
Brachyramphus marmoratus	Marbled murrelet	Birds	Auklets, Puffins, and Relatives	Endangered		CFPR
Buteo swainsoni	Swainson's hawk	Birds	Hawks	Threatened		
Coturnicops noveboracensis	yellow rail	Birds	Rails	None		SSC
Cypseloides niger	Black swift	Birds	Swifts	None		SSC
Empidonax traillii	willow flycatcher	Birds	Tyrant Flycatchers	Endangered		
Falco mexicanus	prairie falcon	Birds	Falcons	None		WL
Falco peregrinus anatum	American peregrine falcon	Birds	Falcons	None		FP/CFPR
Gymnogyps californianus	California condor	Birds	New World Vultures	Endangered		FP/CFPR
Haliaeetus leucocephalus	bald eagle	Birds	Eagles	Endangered		FP/CFPR
Pandion haliaetus	osprey	Birds	Ospreys	None		WL/CFPR
Riparia riparia	bank swallow	Birds	Swallows	Threatened		
Strix nebulosa	great gray owl	Birds	Owls	Endangered		CFPR
Strix occidentalis caurina	Northern spotted owl	Birds	Owls	Threatened		CFPR
Strix occidentalis occidentalis	California spotted owl	Birds	Owls	None		SSC
Catostomus platyrhynchus	mountain sucker	Fish	Suckers	None		SSC
Mylopharodon conocephalus	hardhead	Fish	Carp	None		SSC
Oncorhynchus mykiss gilberti	Kern River rainbow trout	Fish	Trout	None		SSC
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	Fish	Trout	Candidate Endangered		SSC
Oncorhynchus mykiss ssp. 2	McCloud River redband trout	Fish	Trout	None		SSC
Oncorhynchus tshawytscha pop. 11	chinook salmon - Central Valley spring-run ESU	Fish	Salmon	Threatened		
Oncorhynchus tshawytscha pop. 30	chinook salmon - upper Klamath and Trinity Rivers ESU	Fish	Salmon	Candidate Endangered		SSC
Prosopium williamsoni	mountain whitefish	Fish	Trout	None		SSC

Bombus occidentalis	western bumble bee	Insects	Bees	Candidate Endangered	
Antrozous pallidus	pallid bat	Mammals	Evening Bats	None	SSC
Aplodontia rufa californica	Sierra Nevada mountain beaver	Mammals	Mountain Beavers	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	Evening Bats	None	SSC
Euderma maculatum	Spotted bat	Mammals	Evening Bats	None	SSC
Gulo gulo	California wolverine	Mammals	Weasels and Relatives	Threatened	FP
Lasiurus blossevillii	western red bat	Mammals	Evening Bats	None	SSC
Lepus townsendii townsendii	western white-tailed jackrabbit	Mammals	Hares	None	SSC
Lepus americanus tahoensis	Sierra Nevada showshoe hare	Mammals	Hares	None	SSC
Martes caurina humboldtensis	Humboldt marten	Mammals	Weasels and Relatives	Endangered	SSC
Pekania pennanti	Fisher	Mammals	Weasels and Relatives	None	SSC
Pekania pennanti pop. 2	Fisher - Southern Sierra Nevada ESU	Mammals	Weasels and Relatives	Threatened	SSC
Taxidea taxus	American badger	Mammals	Weasels and Relatives	None	SSC
Vulpes vulpes necator	Sierra Nevada red fox	Mammals	Foxes	Threatened	
Monadenia infumata setosa	Trinity bristle snail	Mollusks	Snails	Threatened	
Buxbaumia viridis	buxbaumia moss	Plants	Bryophytes	None	2B.2
Campylopodiella stenocarpa	flagella-like atractylocarpus	Plants	Bryophytes	None	2B.2
Elodium blandowii	Blandow's bog moss	Plants	Bryophytes	None	2B.3
Haplodontium tehamense	Lassen Peak copper moss	Plants	Bryophytes	None	1B.3
Meesia uliginosa	broad-nerved hump moss	Plants	Bryophytes	None	2B.2
Orthotrichum holzingeri	Holzinger's orthotrichum moss	Plants	Bryophytes	None	1B.3
Trichodon cylindricus	cylindrical trichodon	Plants	Bryophytes	None	2B.2
Anemone multifida var. multifida	cut-leaf anemone	Plants	Dicots	None	2B.2
Anisocarpus scabridus	scabrid alpine tarplant	Plants	Dicots	None	1B.3
Arabis rigidissima var. rigidissima	Trinity Mountains rockcress	Plants	Dicots	None	1B.3
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Plants	Dicots	None	1B.3
Astragalus lentiformis	lens-pod milk-vetch	Plants	Dicots	None	1B.2
Astragalus pulsiferae var. pulsiferae	Pulsifer's milk-vetch	Plants	Dicots	None	1B.2
Astragalus pulsiferae var. suksdorfii	Suksdorf's milk-vetch	Plants	Dicots	None	1B.2
Astragalus webberi	Webber's milk-vetch	Plants	Dicots	None	1B.2
Betula glandulosa	dwarf resin birch	Plants	Dicots	None	2B.2
Boechera constancei	Constance's rockcress	Plants	Dicots	None	1B.1
Brasenia schreberi	watershield	Plants	Dicots	None	2B.3
Campanula wilkinsiana	Wilkin's harebell	Plants	Dicots	None	1B.2
Castilleja lassenensis	Lassen paintbrush	Plants	Dicots	None	1B.3
Chaenactis suffrutescens	Shasta chaenactis	Plants	Dicots	None	1B.3
Clarkia mildrediae ssp. mildrediae	Mildred's clarkia	Plants	Dicots	None	1B.3
Cordylanthus tenuis ssp. pallescens	pallid bird's-beak	Plants	Dicots	None	1B.2
Cryptantha crinite	Silky cryptantha	Plants	Dicots	None	1B.2
Cryptantha incana	Tulare cryptantha	Plants	Dicots	None	1B.3
Cuscuta jepsonii	Jepson's dodder	Plants	Dicots	None	1B.2
Beinandra mohavensis	Mojave tarplant	Plants	Dicots	Endangered	1B.3
Delphinium purpusii	rose-flowered larkspur	Plants	Dicots	None	1B.3

Draba asterophora var. macrocarpa	Cup Lake draba	Plants	Dicots	None	1B.1
Draba carnosula	Mt. Eddy draba	Plants	Dicots	None	1B.3
Drosera anglica	English sundew	Plants	Dicots	None	2B.3
Dudleya cymose ssp. costatifolia	Pierpoint Springs dudleya	Plants	Dicots	None	1B.2
Epilobium oreganum	Oregon fireweed	Plants	Dicots	None	1B.2
Epilobium palustre	marsh willowherb	Plants	Dicots	None	2B.3
Epilobium siskiyouense	Siskiyou fireweed	Plants	Dicots	None	1B.3
Eremogone cliftonii	Clifton's eremogone	Plants	Dicots	None	1B.3
Erigeron eatonii var. nevadincola	Nevada daisy	Plants	Dicots	None	2B.3
Erigeron lassenianus var. deficiens	Plumas rayless daisy	Plants	Dicots	None	1B.3
Erigeron nivalis	snow fleabane daisy	Plants	Dicots	None	2B.3
Eriogonum diclinum	Jaynes Canyon buckwheat	Plants	Dicots	None	2B.3
Erigonum nudum var. murinum	mouse buckwheat	Plants	Dicots	None	1B.2
Eriogonum microthecum var. schoolcraftii	Schoolcraft's wild buckwheat	Plants	Dicots	None	1B.2
Eriogonum pyrolifolium var. pyrolifolium	pyrola-leaved buckwheat	Plants	Dicots	None	2B.3
Eriogonum spectabile	Barron's buckwheat	Plants	Dicots	None	1B.2
Eriogonum twisselmannii	Twisselmann’s buckwheat	Plants	Dicots	None	1B.2
Eriogonum umbellatum var. ahartii	Ahart's buckwheat	Plants	Dicots	None	1B.2
Eryngium spinosepalum	spiny-sepaled button-celery	Plants	Dicots	None	1B.2
Erythranthe filicifolia	fern-leaved monkeyflower	Plants	Dicots	None	1B.2
Erythranthe inflatula	Ephemeral monkeyflower	Plants	Dicots	None	1B.2
Erythranthe norrisii	Kaweah monkeyflower	Plants	Dicots	None	1B.3
Erythranthe percaulis	Serpentine Canyon monkeyflower	Plants	Dicots	None	1B.1
Erythranthe trinitiensis	pink-margined monkeyflower	Plants	Dicots	None	1B.3
Frangula purshiana ssp. ultramafica	Caribou coffeeberry	Plants	Dicots	None	1B.2
Frasera albicaulis var. modocensis	Modoc green-gentian	Plants	Dicots	None	2B.3
Galium serpenticum ssp. Scotticum	Scott Mountain bedstraw	Plants	Dicots	None	1B.2
Githopsis tenella	Delicate bluecup	Plants	Dicots	None	1B.3
Harmonia doris-nilesiae	Niles' harmonia	Plants	Dicots	None	1B.1
Harmonia hallii	Hall’s harmonia	Plants	Dicots	None	1B.2
Harmonia stebbinsii	Stebbins' harmonia	Plants	Dicots	None	1B.2
Hemieva ranunculifolia	buttercup-leaf hemieva	Plants	Dicots	None	2B.2
Hesperocyparis	Piute cypress	Plants	Dicots	None	1B.2
Horkelia parryi	Parry's horkelia	Plants	Dicots	None	1B.2
Hosackia oblongifolia var. cuprea	copper-flowered bird's-foot trefoil	Plants	Dicots	None	1B.3
Hulsea brevifolia	short-leaved hulsea	Plants	Dicots	None	1B.2
Hulsea nana	little hulsea	Plants	Dicots	None	2B.3
Hymenoxys lemmonii	alkali hymenoxys	Plants	Dicots	None	2B.2
Ivesia aperta var. aperta	Sierra Valley ivesia	Plants	Dicots	None	1B.2
Ivesia baileyi var. baileyi	Bailey's ivesia	Plants	Dicots	None	2B.3
Ivesia campestris	field ivesia	Plants	Dicots	None	1B.2
Ivesia sericoleuca	Plumas ivesia	Plants	Dicots	None	1B.2
Ivesia webberi	Webber's ivesia	Plants	Dicots	None	1B.1
Ladeania lanceolata	lance-leaved scurf-pea	Plants	Dicots	None	2B.3

Leptosiphon nuttallii ssp. howellii	Mt. Tedoc leptosiphon	Plants	Dicots	None	1B.3
Leptosiphon serrulatus	Madera leptosiphon	Plants	Dicots	None	1B.2
Lewisia cantelovii	Cantelow's lewisia	Plants	Dicots	None	1B.2
Lewisia cotyledon var. heckneri	Heckner's lewisia	Plants	Dicots	None	1B.2
Lewisia disepala	Yosemite Lewisia	Plants	Dicots	None	1B.2
Lomatium foeniculaceum ssp. Macdougalii	Macdougal’s lomatium	Plants	Dicots	None	2B.2
Lomatium roseanum	adobe lomatium	Plants	Dicots	None	1B.2
Lysimachia thyrsiflora	tufted loosestrife	Plants	Dicots	None	2B.3
Monardella follettii	Follett's monardella	Plants	Dicots	None	1B.2
Monardella stebbinsii	Stebbins' monardella	Plants	Dicots	None	1B.2
Navarretia leucocephala spp. Pauciflora	Few-flowered navarretia	Plants	Dicots	Threatened	1B.1
Neviusia cliftonii	Shasta snow-wreath	Plants	Dicots	Candidate Endangered	1B.2
Oreonana purpurascens	purple mountain-parsley	Plants	Dicots	None	1B.2
Oreostemma elatum	tall alpine-aster	Plants	Dicots	None	1B.2
Orobanche ludoviciana var. arenosa	Suksdorf's broom-rape	Plants	Dicots	None	2B.3
Orthocarpus bracteosus	rosy orthocarpus	Plants	Dicots	None	2B.1
Orthocarpus pachystachyus	Shasta orthocarpus	Plants	Dicots	None	1B.1
Packera eurycephala var. lewisrosei	Lewis Rose's ragwort	Plants	Dicots	None	1B.2
Parnassia cirrata var. intermedia	Cascade grass-of-Parnassus	Plants	Dicots	None	2B.2
Penstemon personatus	closed-throated beardtongue	Plants	Dicots	None	1B.2
Penstemon tracyi	Tracy's beardtongue	Plants	Dicots	None	1B.3
Phacelia cookei	Cooke's phacelia	Plants	Dicots	None	1B.1
Phacelia leonis	Siskiyou phacelia	Plants	Dicots	None	1B.3
Polemonium pulcherrimum var. shastense	Mt. Shasta sky pilot	Plants	Dicots	None	1B.2
Pyrrocoma lucida	sticky pyrrocoma	Plants	Dicots	None	1B.2
Raillardella pringlei	showy raillardella	Plants	Dicots	None	1B.2
Rhamnus alnifolia	alder buckthorn	Plants	Dicots	None	2B.2
Ribes tularense	Sequoia gooseberry	Plants	Dicots	None	1B.3
Rumex venosus	winged dock	Plants	Dicots	None	2B.3
Scutellaria galericulata	marsh skullcap	Plants	Dicots	None	2B.2
Sedum albomarginatum	Feather River stonecrop	Plants	Dicots	None	1B.2
Sedum paradisum ssp. paradisum	Canyon Creek stonecrop	Plants	Dicots	None	1B.3
Sedum rubiginosum	Mt. Tedoc stonecrop	Plants	Dicots	None	1B.2
Sidalcea multifida	cut-leaf checkerbloom	Plants	Dicots	None	2B.3
Silene marmorensis	Marble Mountain campion	Plants	Dicots	None	1B.2
Silene occidentalis ssp. longistipitata	long-stiped campion	Plants	Dicots	None	1B.2
Silene suksdorfii	Cascade alpine campion	Plants	Dicots	None	2B.3
Stellaria longifolia	long-leaved starwort	Plants	Dicots	None	2B.2
Streptanthus oblanceolatus	Trinity River jewelflower	Plants	Dicots	None	1B.2
Suaeda occidentalis	western seablite	Plants	Dicots	None	2B.3
Tonestus lyallii	Lyall's tonestus	Plants	Dicots	None	2B.3
Trichodon cylindricus	cylindrical trichodon	Plants	Dicots	None	2B.2

Trifolium gymnocarpon ssp. plummerae	Plummer's clover	Plants	Dicots	None	2B.3	
Utricularia intermedia	flat-leaved bladderwort	Plants	Dicots	None	2B.2	
Utricularia ochroleuca	cream-flowered bladderwort	Plants	Dicots	None	2B.2	
Vaccinium scoparium	little-leaved huckleberry	Plants	Dicots	None	2B.2	
Viola pinetorum ssp. grisea	grey-leaved violet	Plants	Dicots	None	1B.2	
Viola purpurea ssp. aurea	golden violet	Plants	Dicots	None	2B.2	
Asplenium septentrionale	northern spleenwort	Plants	Ferns	None	2B.3	
Botrychium ascendens	upswept moonwort	Plants	Ferns	None	2B.3	
Botrychium crenulatum	scalloped moonwort	Plants	Ferns	None	2B.2	
Botrychium minganense	Mingan moonwort	Plants	Ferns	None	2B.2	
Botrychium montanum	western goblin	Plants	Ferns	None	2B.1	
Botrychium pinnatum	northwestern moonwort	Plants	Ferns	None	2B.3	
Abies lasiocarpa var. lasiocarpa	Subalpine fir	Plants	Gymnosperm	None	2B.3	
Allium abramsii	Abrams' onion	Plants	Monocots	None	1B.2	
Brodiaea insignis	Kaweah brodiaea	Plants	Monocots	Endangered	1B.2	
Calochortus clavatus var. avius	Pleasant Valley mariposa-lily	Plants	Monocots	None	1B.2	
Calochortus westonii	Shirley Meadows star-tulip	Plants	Monocots	None	1B.2	
Carex davyi	Davy's sedge	Plants	Monocots	None	1B.3	
Carex lasiocarpa	woolly-fruited sedge	Plants	Monocots	None	2B.3	
Carex limosa	mud sedge	Plants	Monocots	None	2B.2	
Carex petasata	Liddon's sedge	Plants	Monocots	None	2B.3	
Carex praticola	northern meadow sedge	Plants	Monocots	None	2B.2	
Carex sheldonii	Sheldon's sedge	Plants	Monocots	None	2B.2	
Cinna bolanderi	Bolander's woodreed	Plants	Monocots	None	1B.2	
Corallorhiza trifida	northern coralroot	Plants	Monocots	None	2B.1	
Eleocharis torticulmis	California twisted spikerush	Plants	Monocots	None	1B.3	
Erythronium hendersonii	Henderson's fawn lily	Plants	Monocots	None	2B.3	
Erythronium pusaterii	Kaweah fawn lily	Plants	Monocots	None	1B.3	
Fritillaria brandegeei	Greenhorn fritillary	Plants	Monocots	None	1B.3	
Iris munzii	Munz's iris	Plants	Monocots	None	1B.3	
Juncus dudleyi	Dudley's rush	Plants	Monocots	None	2B.3	
Juncus luciensis	Santa Lucia dwarf rush	Plants	Monocots	None	1B.2	
Juncus regelii	Regel's rush	Plants	Monocots	None	2B.3	
Orcuttia tenuis	slender Orcutt grass	Plants	Monocots	Endangered	1B.1	
Panicum acuminatum var. thermale	Geysers panicum	Plants	Monocots	Endangered	1B.2	
Poa sierrae	Sierra blue grass	Plants	Monocots	None	1B.3	
Potamogeton epihydrus	Nuttall's ribbon-leaved pondweed	Plants	Monocots	None	2B.2	
Potamogeton praelongus	white-stemmed pondweed	Plants	Monocots	None	2B.3	
Potamogeton robbinsii	Robbins' pondweed	Plants	Monocots	None	2B.3	
Rhynchospora alba	white beaked-rush	Plants	Monocots	None	2B.2	
Scheuchzeria palustris	American scheuchzeria	Plants	Monocots	None	2B.1	
Schoenoplectus heterochaetus	slender bulrush	Plants	Monocots	None	2B.1	
Schoenoplectus subterminalis	water bulrush	Plants	Monocots	None	2B.3	
Sphenopholis obtusata	prairie wedge grass	Plants	Monocots	None	2B.2	
Anniella pulchra	Northern California legless lizard	Reptiles	Legless Lizards	None		SSC
Emys marmorata	western pond turtle	Reptiles	Box and Water Turtles	None		SSC

Attachment 3

2021 Statewide Fires –Environmental Protection Plan

TAHOE REGIONAL PLANNING AGENCY
Best Management Practices

1.0 Introduction

This document summarizes Best Management Practices (BMPs) for the Tahoe Regional Planning Agency (TRPA). Through the bi-state Tahoe Regional Planning Compact (Compact), TRPA reviews all activities undertaken within the Tahoe Basin that affect its environmental quality.

2.0 TRPA

TRPA works in concert with other agencies in the Basin to ensure the protection, among other subjects of water and air quality. The TRPA has a Memorandum of Understanding with federal, state, and local agencies and entities to streamline project permitting, including exempting many activities provided those activities are undertaken consistent with TRPA's Handbook of Best Management Practices (https://tahoebmp.org/BMPHandbook.aspx).

The majority of private property parcels in the Lake Tahoe Basin are relatively small (less than one acre in size) and therefore not required to obtain some of the permits identified within this EPP. In these cases, compliance with federal, state, regional, and local regulations will be enforced by TRPA and local partners.

3.0 Tahoe Basin BMPs

3.1 TRPA Consultation

If the property is in the Tahoe Basin, contact TRPA for review and approval of hazard tree removal and debris clean-up on private property post-fire. Depending on the size and scale of the project, activities may be exempt from TRPA review or may require permits and approvals from other regulatory agencies listed in the other attachments to this document. TRPA will help agency personnel and/or private property owners navigate which permits are required for their project, if any.

3.2 BMPs

All projects undertaken in the Tahoe Basin shall be consistent with TRPA's Handbook of Best Management Practices referenced above.

Attachment 4

2021 Statewide Fires –Environmental Protection Plan

United States Fish and Wildlife Service and National Marine Fisheries Service Avoidance and Minimization Measures

U.S. Department of Homeland Security
Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

IN REPLY REFER TO:
CK-PA-DR-4610/4619-CA – PPDR

October 28, 2021

Re: Private Property Debris Removal for wildfires within multiple counties
FEMA-4610/4619 DR-CA – Private Property Debris Removal
Expedited Review for Emergency PPDR Undertaking Three-Day Review Period
Final Decision Regarding Treatment Measures to Resolve Potential Adverse Effects

Dear Consulting and Interested Parties:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), in response to the wildfires that resulted in Presidentially declared Major Disaster Declaration FEMA-4610-CR-CA (Incident Period – July 14, 2021 and continuing) and FEMA-4619-DR-CA (Incident Period – August 14, 2021 and continuing), proposes to provide Federal disaster assistance under its Public Assistance Program authorized under Section 403 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act Pub. L. No. 93-288 (1974) (codified as amended at 42 U.S.C § 5121 et seq.) (Stafford Act).

The State of California Governor's Office of Emergency Services (Cal OES) has requested that FEMA provide assistance for emergency Private Property Debris Removal (PPDR) within the declared counties of Lassen, Nevada, Placer, Plumas, Trinity, Tehama, and El Dorado. On October 15, 2021 FEMA provided notification of its intent to review the emergency Undertaking for compliance with Section 106 of the National Historic Preservation Act (NHPA) in accordance with Stipulation II.B. regarding Expedited Review for Emergency Undertakings of the 2019 Programmatic Agreement among FEMA, the California State Historic Preservation Officer (SHPO), and the California Governor's Office of Emergency Services (Cal OES) (Agreement) and proposed treatment measures to resolve potential adverse effects. The notification was provided to the SHPO, the Advisory Council on Historic Preservation (ACHP), the California Department of Resources Recycling and Recovery (Cal Recycle), and twenty-three (23) Federally Recognized Tribes that have been identified as having ancestral areas and potential interest within the declared counties.

As noted in the referenced October 15, 2021 notification, the Expedited Review for Emergency Undertakings process is not applicable to any PPDR operations that may occur on tribal reservations as the Agreement does not apply to Undertakings on or affecting tribal reservations. Should PPDR be requested and determined eligible for tribal reservations, FEMA will consult with the respective federally recognized tribes in accordance with Section 106 implementing regulations at 36 CFR § 800.2(c)(2)(i).

An Initial Notice of Disaster Declaration was sent to all Federally Recognized Tribes identified in documents provided by the Native American Heritage Commission (NAHC), through the Bureau of

Indian Affairs Tribal Leaders Directory, and the Tribal Directory Assessment Tool maintained by the Office of Environment and Energy on August 26, 2021 for CA-DR-4610 and on September 13, 2021 for CA-DR-4619 (See attached distribution list). Letters to notify of proposed PPDR operations were sent to all identified Tribes, emailed on September 15, 2021, and mailed via USPS or UPS on September 28, 2021. Additional notifications were sent on September 27, 2021, when Trinity and Tehama Counties were added to the Declaration. On October 15, 2021, the above referenced proposed Treatment Measures were sent to all identified potentially interested parties and Tribes.

In response to the October 15, 2021 notification, FEMA facilitated two video-telephone meetings via the ZOOM software platform on October 19 and 25, 2021, which were attended by representatives of four Federally Recognized Tribes (Enterprise Rancheria of Maidu Indians of California; Fort McDermitt Paiute and Shoshone Tribes of the Fort McDermitt Indian Reservation, Nevada and Oregon; Bear River Band of Rohnerville Rancheria; and Paskenta Band of Nomlaki Indians), ACHP, Cal OES, and Cal Recycle. No comments were provided to FEMA during either session. A follow-up email was sent to all potentially interested parties and Tribes following the first listening session, prior to and immediately after the second. Additional meetings were held and continue to be held individually based on request. Written comments and/or statements of interest were provided by eight (8) Federally Recognized Tribes (Mooretown Rancheria of Maidu Indians of California; Pit River Tribe, California; Susanville Indian Rancheria, California; United Auburn Indian Community of the Auburn Rancheria of California; Wilton Rancheria; Bear River Band of Rohnerville Rancheria; and Berry Creek Rancheria of Maidu Indians) with one stating that the operational areas were outside of their area of concern (Paiute-Shoshone Tribe of the Fallon Reservation and Colony, Nevada). A letter was received from SHPO dated October 20, 2021 which provided additional comments regarding FEMA's proposed Treatment Measures.

FEMA is providing this communication regarding its final decision in accordance with Stipulation II.B.2.v of the Agreement. FEMA has taken all comments into consideration and has modified the proposed Treatment Measures to avoid, minimize, and mitigate potential adverse effects to historic properties accordingly. In addressing comments, FEMA provides the following additional information:

Lessons learned from PPDR efforts in earlier fires

While attempts were made in previous PPDR operations to allow for Tribal monitor access at the commencement of the emergency debris removal operations, this was not possible without impairing the State's ability to respond to the impending threat to public health and safety. As a result of provided comments and lessons learned, the Right of Entry (ROE) language has been modified to reflect that there will be Tribal monitoring occurring. ROE language now states that Tribal monitors will be on the property rather than referring to contracted individuals as the previous ROE had.

Lack of sufficient data regarding previously recorded archaeological sites necessitated archeological monitoring based upon informed decisions and prudent strategy in previous operations. FEMA has had excellent results in early coordination with the California Historical Resource Information System Information Centers within the affected counties for the DR4610/4619 PPDR operation and has successfully provided data regarding previously

recorded archaeological sites with the Caldor, River, and Dixie Fire burn scars to the Archaeological Coordinator for early identification and monitoring efforts.

Based upon lessons learned, FEMA has updated language in the below PPDR Treatment Measures to reflect that Tribes have the authority to approve and assign a Tribal Historic Preservation Officer or designee for the purpose of the operation (formerly referred to as a Tribal Cultural Advisor). It is FEMA's desire for this language to reflect that an individual's knowledge of Tribal culture and Tribal Cultural Resources may be acquired in ways other than "Professional Qualifications" and the decision should be based upon the Tribe's determination of who within their Tribal organization is most qualified to serve in this capacity.

In coordination with the SHPO, Cal OES, and Cal Recycle, and participating Tribes, FEMA will require the following Treatment Measures to avoid, minimize, and mitigate potential adverse effects to historic properties, should they be encountered during the emergency phase of PPDR:

The following Treatment Measures consider the requests and recommendations of interested parties. These measures shall be implemented in operations as soon as practicable without resulting in operational delays.

Treatment Measures outlined below regarding tribal participation in cultural resource training and the presence of a Tribal Historic Preservation Officer or designee will be limited to operational areas identified through responses submitted to FEMA by federally recognized Native American Tribes and will be specific to identified areas of ancestral interest within the burn scar locations.

A. Archaeological Coordinator (to be provided by State operation)

An Archaeological Coordinator who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology as set forth in the Federal Register at 48 Fed. Reg. 44716-01 (September 29, 1983), as amended (SOI Qualified Archaeologist), as determined by FEMA, shall be assigned to the operation (to coordinate with the Incident Command) to serve as a resource for debris removal crews and to respond in the event of an inadvertent archaeological discovery during field operations. The Archaeological Coordinator will coordinate directly with Tribal Historic Preservation Officers, or designee (as applicable) regarding the treatment of prehistoric period cultural resources encountered during field operations.

B. Tribal Historic Preservation Officer (THPO) or their designee

A Tribal Historic Preservation Officer (THPO) or their designee will be assigned to each geographic area of the operation based on Tribes' identification of ancestral areas and interest provided to FEMA, to coordinate directly with the Archaeological Coordinator regarding the treatment of prehistoric resources encountered during field operations. Selection of the operational Tribal Historic Preservation Officer or designee shall be the determination of the Tribe as sufficient experience and/or qualifications is best determined by the Tribe.

a. Duplication of effort should be avoided. If multiple Tribes express duplicative areas of interest within a particular operation area, FEMA will ask the THPOs (or appropriate Tribal representative) to coordinate to identify the appropriate designee and provide the recommendation to State operational management.

b. In the event that multiple Tribes indicate areas of ancestral interest in an operational area that are not duplicative, a Tribal Historic Preservation Officer or designee representing each Tribe for independent areas of interest will be assigned based on selection by the Tribe.

c. Treatment Measures specifically identified to address the concerns of Federally Recognized Tribes will be implemented as quickly as practicable and will be streamlined as the Tribes provide information to FEMA regarding their concerns and areas of interest.

d. Tribes that have not yet contacted FEMA will not be precluded from providing feedback, comments, or requesting participation at a later date.

C. Resource Training- Debris Removal Crews (to be provided by State operation)

Cultural resource sensitivity and awareness training shall be mandatory for all crews prior to working in the field as part of their operational orientation and instruction. Cultural resource sensitivity and awareness training content and materials shall be developed and delivered by the Archaeological Coordinator. The THPO or designee may request to provide additional Tribal Cultural Resource training specific to Tribal concerns and resources.

D. Archaeological Monitoring

a. Archaeological monitoring will take place as soon as practicable, without resulting in operational delays. The California Historical Resources Information System (CHRIS) data will be reviewed by the Archaeological Coordinator and archaeological monitoring will be conducted during ground disturbing activities that take place on parcels containing previously identified archaeological sites or cultural resources. Archaeological monitors will collect sufficient information to update DRP forms which will be included in the final report. No artifact collection, laboratory studies, scientific analysis, curation, or relocation are permitted. No video recording or photography is permitted for Tribal Cultural Resources without the prior consent of the on-site Tribal Monitor.

b. Daily, prior to ground disturbing activities commencing on parcels containing identified archaeological sites, Tribal, or cultural resources, archaeological or Tribal monitors and operational ground crew shall discuss protection measures for identified resources and agree upon a work plan. This work plan shall be signed by those in attendance and documented in monitoring logs.

E. Tribal Monitoring

As determined through consultation with Federally Recognized Tribes, FEMA will require that the State implement Tribal monitoring as soon as practicable, without resulting in operation delays. Tribes shall provide maps to FEMA identifying their ancestral areas of concern within the burn scars, which FEMA will then transmit to the appropriate State contactor along with tribal contract information to facilitate coordination for Tribal monitoring. No artifact collection, laboratory studies, scientific analysis, curation, or relocation are permitted during operational activities.

F. Inadvertent Discoveries

Cal OES (or designee) will document inadvertent discoveries and potential impacts to historic properties and cultural resources identified during field operations and provide:

a. As unanticipated resources are encountered and recognized by field crews who have participated in resource training, the Archaeological Coordinator and THPO or designee will be notified, and an archaeologist will be dispatched to document the discovery. If requested by the THPO or designee, documentation shall occur in coordination with a tribal monitor.

    i. The archaeologist, in coordination with the THPO or designee, for inadvertent discoveries of Tribal Cultural Resources, will recommend measures that may be reasonably implemented to avoid and or minimize effects.

        1. Inadvertent discoveries of historic period resources will be addressed via the Archaeological Coordinator with the intent to avoid or minimize impacts while limiting potential operational delays.

        2. Inadvertent discoveries that contain both historic period and prehistoric period resources, as determined in coordination with the THPO or designee and Archaeological Coordinator, will be documented, and then addressed on site by the THPO or designee.

        3. Inadvertent discovers which have cultural relevance to tribes only will be addressed via the THPO or designee.

    ii. Documentation sufficient for the preparation of DPR forms will be collected for each discovery.

b. If suspected human remains are encountered, there shall be no further excavation or disturbance within a 100-foot radius of the discovery location, the remains will be covered with plastic sheeting, plywood, or trench plates for temporary protection, and the county coroner/medical examiner will be notified immediately in accordance with Section 7050.5 of the California Health and Safety Code. Activities will not resume until

FEMA concludes consultation with the SHPO and interested parties. The term "human remains" encompasses more than human bones as Tribal traditions periodically necessitated the ceremonial burning of human remains. See Cal. Pub. Res. Code § 5097.98.

G. Reporting Requirements

Cal OES (or designee) shall provide periodic and final reports that will document the implementation of the applicable Treatment Measures.

a. Interim updates shall be provided every 60 days from the beginning of the operation to FEMA for distribution to the interested parties.

b. A post-implementation summary report regarding the Treatment Measures implemented throughout the operation. Recommendations for improvement to the protection of historic properties that may be incorporated in future protocols or agreements regarding Emergency Undertakings.

i. A draft post-implementation summary report shall be submitted to FEMA within 90 calendar days following the conclusion of the operation, and will include the following:

1. Actions completed in accordance with A, C, D and F of the Treatment Measures

2. A list of previously recorded historic standing structures destroyed by the 2020 wildfires to facilitate updates to the CHRIS and a list of previously unidentified resources identified within the operation.

c. FEMA will provide the draft report to SHPO and the interested parties within 150 calendar days following the completion of the emergency undertaking for a 30-day review and comment period.

d. FEMA will take into consideration the comments of the SHPO and interested parties in preparing a final report to be completed no later than 210 days following completion of the emergency undertaking. A copy of the revised report shall be provided to the SHPO and interested parties for a 30-day comment period prior to finalization and submittal to SHPO and participating THPOs

e. If desired, Tribal Cultural Advisors may provide a post-implementation summary report regarding the Treatment Measures implemented throughout the operation and recommendations for improvement to the protection of Tribal Cultural Resource that may be incorporated in future protocols or agreements regarding Emergency Undertakings.

FEMA will communicate and coordinate with Cal OES to encourage project proponents of Emergency Undertakings to work closely with Native American Tribes with ancestral interest in operation area, avoid adverse effects to identified historic properties and Tribal Cultural Resources and if avoidance is infeasible, minimize adverse effects, and limit ground disturbance to the greatest extent possible.

The above Treatment Measures will be implemented as soon as practicable, and FEMA will continue to facilitate meaningful consultation with Federally Recognized Tribes as requested. Thank you for your interest in historic properties and for your willingness to participate in the Section 106 process to resolve potential adverse effects as a result of these emergency undertakings. Should you have any questions or concerns please do not hesitate to contact me at Chelsea.klein@fema.dhs.gov or (816) 872-2014.

Sincerely,

Chelsea Klein
Lead Environmental Planning and Historic Preservation Advisor
FEMA-DR-4610/4619-CA

Enclosures:

A: Distribution List
B: DR-4610-CA and DR-4619-CA County Maps with Burn Scars

DISTRIBUTION LIST

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U.S. Department of Homeland Security
Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

IN REPLY REFER TO:
CK-PA-DR-4610/4619-CA – PPDR

October 15, 2021

Re: Private Property Debris Removal for wildfires within multiple counties
FEMA-4610/4619 DR-CA – Private Property Debris Removal
Expedited Review for Emergency PPDR Undertaking Three-Day Review Period

Dear Consulting Parties:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), in response to the wildfires that resulted in Presidentially declared Major Disaster Declaration FEMA-4610-CR-CA (Incident Period – July 14, 2021 and continuing) and FEMA-4619-DR-CA (Incident Period – August 14, 2021 and continuing), proposes to provide Federal disaster assistance under its Public Assistance Program authorized under Section 403 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act Pub. L. No. 93-288 (1974) (codified as amended at 42 U.S.C § 5121 et seq.) (Stafford Act). The State of California Governor's Office of Emergency Services (Cal OES) has requested that FEMA provide assistance and/or funding for emergency work (as defined in 44 CFR § 206.201(b)), including work already completed, in response to an immediate threat to human health and safety and property following the historic wildfire season within seven (7) declared counties: Lassen, Nevada, Placer, Plumas, Trinity, Tehama, and El Dorado. The Incident Period for DR-4610 and 4619 remains open, and additional counties may be added to the declaration if requested and determined eligible as result of damage assessment, as ongoing fires remain a threat.

The State has requested reimbursement for Private Property Debris Removal (PPDR) for seven (7) Counties, however, additional counties may be added. As of this date, the full scope of eligible activities has not been determined. The PPDR will be conducted in response to the existing threat to human health and safety as a result of damages from the wildfires throughout Northern and Central California. Due to the presence of hazardous materials, contaminated ash, and unsafe conditions, private property owners cannot return to their properties until hazardous debris has been removed. Additional environmental concerns and consideration exist including anticipated impacts to watersheds from hazardous material and ash, including potential contamination of multiple critical watersheds and drinking-water sources for millions of residents. Due to the imminent threat, the State plans to begin PPDR operations in all seven (7) counties from the northernmost (Trinity), to the southernmost (El Dorado) in late October.

PPDR activities that have been prioritized to begin in October will include the removal and disposal of approximately ~1800 residential structures that were destroyed by fires and have been determined by local governments to be a threat to public health and safety. Throughout the declared counties, structural debris removal from destroyed commercial buildings may be included on a case by case basis. Destroyed building remains and surface ash, which may include 3-6 inches of incidental soil,

soil testing (and subsequent scrape/re-scrape processes needed to meet sufficient contamination standards for safety), burned or partially burned furniture, personal belonging, white goods, household appliances, patio furniture, hazardous materials, and pollutants, chimneys, unsupported walls, and trees that are a threat to debris removal crews will be removed. Debris will be transported to identified licensed landfills or processing centers to be identified prior to the implementation of the operation. Following the response to the immediate threat, PPDR activities may continue for an extended period of time and will involve the removal of burned trees located with the public right-of-way (ROW) or other public and or private property through the burn scar areas that pose a threat of falling and therefore constitute an ongoing threat to the public and property.

When determined eligible, this proposed activity is anticipated to meet the definition of a Federal Undertaking pursuant to Title 36 Code of Federal Regulations § 800.16(y). FEMA is reviewing the Undertaking for compliance with Section 106 of the National Historic Preservation Act (NHPA) in accordance with the 2019 Programmatic Agreement among FEMA, the California State Historic Preservation Officer (SHPO), and Cal OES (Agreement). FEMA has determined that an initial phase of PPDR to remove destroyed buildings and debris, hazardous materials, and contaminated ash that are a threat to several critical watersheds through the State of California, would be an Emergency Undertaking. Accordingly, FEMA is reviewing this phase of PPDR activities in accordance with Stipulation II.B. of the Agreement regarding Expedited Review for Emergency Undertakings.

This consultation is not applicable to any PPDR operations that may occur on any Tribal lands as the Agreement does not apply to Undertakings on or affecting Tribal lands. Should PPDR be requested and determined eligible for Tribal lands, FEMA with consult with the respective Tribes in accordance with the Section 106 implementing regulations at 36 CFR § 800.2(c)(2)(i).

FEMA anticipates that the majority of the emergency debris removal activities will have no or limited effects on historic properties, such as the removal of hazardous materials, structural debris, contaminated ash within the footprint of a destroyed residential structure, or the removal of hazardous trees within the ROW; however, removal of fire-damaged building remains that may retain National Register of Historic Places (NRHP) integrity, soil scraping and testing to remove contaminated/toxic soil, driving of tracker equipment into rural parcels for debris access, and removal of hazardous trees within the public ROW or other public and/or private property through the burn scars may have potential to affect historic properties, should any historic properties be present.

In an effort to identify potential consulting parties, including Native American Tribes that may have an interest in the Undertaking and its effects of historic properties, FEMA reviewed information provided through the Native American Heritage Commission (NAHC), the Bureau of Indian Affairs (BIA) website, and the Tribal Directory Assessment Tool (TDAT) managed by the U.S. Department of Housing and Urban Development website obtained in September 2021. In accordance with FEMA's government-to-government relationship with Federally recognized Tribes, FEMA initiated consultation with sixteen (16) tribes, based on the original five (5) counties proposed for PPDR and included in DR-4610-CA and DR-4619-CA, (Initial disaster declaration notice sent August 30, 2021, September 13, 2021, and follow-up consultation letters sent electronically September 15, 2021) and an additional six (6) tribes, based on the September 24, 2021 addition of Trinity and Tehama County, (Initial disaster declaration notice sent September 27, 2021, and follow-up consultation

letters sent electronically September 28, 2021 and October 14, 2021) to determine if any of the Tribes had interest in the project area or wanted to notify FEMA of any concerns regarding historic properties or cultural resources within the proposed operation area. All twenty-two (22) tribes were contacted in a U.S. Postal Mailing on October 1, 2021. To date, three (3) Tribes have provided response. Consultation with potentially interested consulting parties is on-going FEMA is providing this notice and request for Expedited Review to all twenty-two Tribes.

FEMA has preliminarily determined that the Area of Potential Effects (APE) will be limited to the ground disturbing activities associated with the PPDR activities throughout the burn scars within the seven (7) counties. Actual project impacts will be limited to activities determined to be eligible and may include debris removal activities on private properties, and the removal of hazardous trees located within the public ROW or other public and/or private properties that are determined by an arborist or registered professional forester to present a threat to the ROW or improved infrastructure, therefore, the actual APE will be significantly reduced; however, at this time, the number of participating properties and exact locations of project activities are unknown.

In an effort to identify previously recorded historic properties within the APE, FEMA requested Sacred Lands files from the NAHC for the burn scars within the seven (7) counties that may be requested for PPDR. The results which have been received to date were positive for Sacred Lands within two (2) counties. It is unknown if PPDR activities may impact any Sacred Lands within any of the counties. FEMA also has searched the National Historic Landmark (NHL) data base. There are two NHLS within with declared counties: Coloma in El Dorado County, and the Donner Camp Sites within Nevada County. Review of the fire boundary maps does not indicate impacts to the NHLs. Due to the extremely large geographic area throughout the seven counties, FEMA has not searched the NRHP database for potential impacts to NRHP-listed historic properties.

FEMA has requested information from the California Historic Resource Information System (CHRIS) for burn scars in which wildfire containment of greater than 70% has been achieved. As containment is achieved, FEMA will continue to request data.

FEMA proposes the following treatment measures to avoid, minimize, and mitigate potential adverse effects to potential historic properties should they be encountered during the implementation of the first phase of PPDR:

A. Resource Training – PPDR Removal Crews (to be provided by State operation, with training approved by FEMA)

   Cultural Resource Sensitivity and Awareness training would be mandatory for all crews working in the field as part of their operation introduction. Training would be provided by staff, as determined by FEMA, who meet the Secretary of the Interior's Professional Qualifications Standards set forth in the Federal Register at 48. Fed Reg. 44716-01 (September 29, 1983), as amended (SOI Qualified).

B. Archaeological Coordinator

A SOI Qualified archaeologist will be assigned to coordinate with the Incident Command in the event of an inadvertent discover during field operations and to serve as a resource for debris removal crews.

C. Cal OES (or designee) will document inadvertent discoveries and potential impacts to historic properties and cultural resource identified during field operations as a result of crew training and responsibilities of the archaeological Coordinator and provide:

    1. Interim updates in the form of a summary report every sixty (60) days to FEMA for distribution to the consulting parties.

    2. A post-implementation summary of the Undertaking as part of a draft report documenting FEMA's compliance with Section 106 of the NHPA for the operation and will include recommendations for improvement to the protection of historic properties that may be incorporated in future Emergency Undertakings.

    3. A report to FEMA from Cal OES (or designee) at the conclusion of the operation, to be provided to SHPO and the consulting parties that includes:

        a. Actions completed under items within Section C above and methodologies used for completion.

        b. A list of previously recorded historic standing strictures that were destroyed during the 2021 wildfires to facilitate updates to the CHRIS.

        c. A list of previously unidentified resources identified within the operation.

D. FEMA will provide this draft report to SHPO and the consulting parties for review and comment within 150 calendar days following the completion of the first phase of the PPDR Operation for review and comment.

E. FEMA will take into consideration the comments of the consulting parties prior to submission of the final report to be submitted no later than 180 days following completion of the PPDR Emergency Undertaking.

F. FEMA will communicate and coordinate with Cal OES to encourage project proponents of the Emergency Undertaking to:

    1. Avoid adverse effects to identified historic properties, and if avoidance is infeasible, minimize adverse effects.

    2. Limit ground disturbance to the extent possible to "previously disturbed soils" that are not likely to possess intact and distinct soil horizons and have the reduced likelihood of possessing historic properties within their original depositional contexts in the area and to the depth to be excavated.

3. If human remain are discovered, there shall be no further excavation or disturbance of any nearby area that may also contain human remains, and the county coroner/medical examiner will be notified immediately in accordance with Section 7050.5 of the California Health and Safety Code. Activities will not resume until FEMA concludes consultation with the SHPO and consulting parties.

For debris removal activities that take place outside of the initial six-month emergency period, FEMA will engage with all potential consulting parties including Tribes in accordance with Stipulation II.C of the Agreement regarding Standard Project Review.

Should you have any knowledge of historic properties or cultural resources within the project vicinity and/or concerns about this Undertaking and its potential effects on resources of interest, please contact please contact me at Chelsea.klein@fema.dhs.gov or (816) 872-2014. FEMA will be holding two, virtual listening sessions (October 20, 2021, 10-11:30am and October 25, 2021, 3:00-4:30pm) to address outstanding questions, concerns, and receive feedback on the proposed treatment measures. Additional meeting may be held at the request of any consulting party.

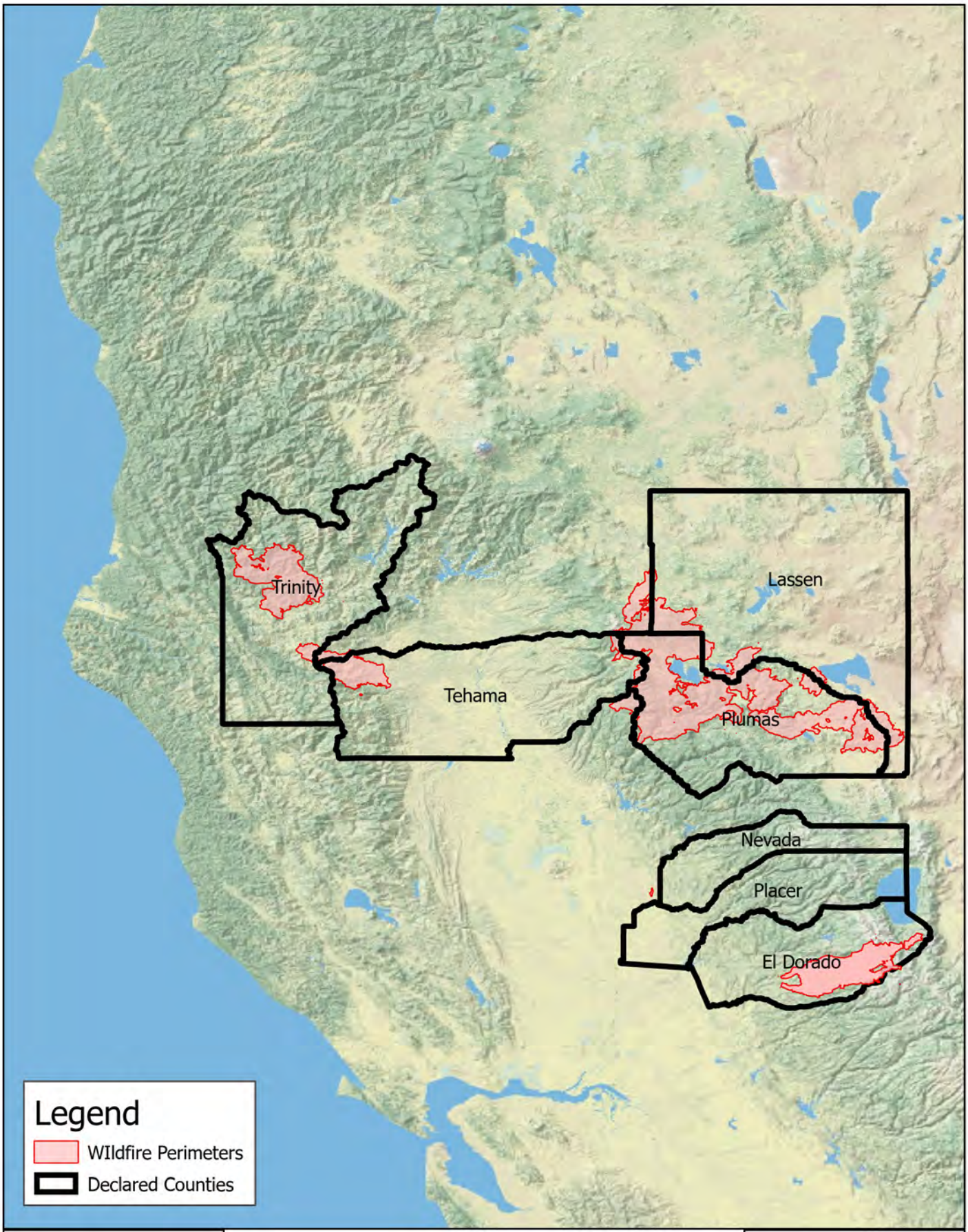
Due to the emergency nature of this Undertaking, in accordance with Stipulation II.B.2(c)(i) of the Agreement, we respectfully request that any comments be provided within 3 days or by October 20, 2021**.**

Sincerely,

Chelsea Klein
Lead Environmental Planning and Historic Preservation Advisor
FEMA-DR-4610/4619-CA

Enclosures:

A: Distribution List
B: DR-4610-CA and DR-4619-CA County Maps with Burn Scars
C: 2019 Programmatic Agreement among the U.S. Department of Homeland Security's Federal Emergency Management Agency, the California State Historic Preservation Officer, the California Governor's Office of Emergency Services



FEMA-DR-4610/4619-CA

Counties Declared for PPDR Operations
(Burn Scar Depicted as Reference Only)

N

0 20 40 80
Miles

Scale 1:25,000,000

FEMA

DISTRIBUTION LIST

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Native American Contacts List
October 13, 2021

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Native American Contacts List
October 13, 2021

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Given the severity of destruction cause by the numerous wildfires in Lassen, Nevada, Placer, Plumas, and El Dorado counties in California, FEMA has requested Avoidance and Minimization Measures for federally-listed species that may be encountered during project activities. The following species have the potential to occur within the burn area:

Sierra Nevada yellow-legged frog (*Rana sierrae*), Federally-listed as endangered

Species-specific Conservation Measures

1. Encounters with Species: Each encounter with a Sierra Nevada yellow-legged frog will be treated on a case-by-case basis. If any life stage of the Sierra Nevada yellow-legged frog is found and these individuals may potentially be killed or injured by work activities, the following will apply:

    a. If Sierra Nevada yellow-legged frogs are detected in the Action Area, work activities within 50 feet of the individual that may the potentially result in the harm, injury, or death of the animal will cease immediately and the Onsite Project Manager and a qualified biologist will be notified. Based on the professional judgment of a qualified biologist, if project activities can be conducted without harming or injuring the Sierra Nevada yellow-legged frog, it may be left at the location of discovery and monitored by a qualified biologist. All project personnel will be notified of the finding and at no time will work occur within 50 feet of a Sierra Nevada yellow-legged frog without a qualified biologist present.

    b. To the maximum extent possible, contact with the individual frog will be avoided and it will be allowed to move out of the potentially hazardous situation of its own volition. This procedure applies to situations where a Sierra Nevada yellow-legged frog is encountered while it is moving to another location. It does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species if the individual moves away from the hazardous location.

Construction Conservation Measures

1. Site Restrictions: The following site restrictions will be implemented to avoid or minimize effects on the listed species and its habitat

    a. All food and food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in sealed trash containers and removed at the end of each workday.

    b. No pets will be allowed anywhere in the Action Area during construction.

2. All heavy equipment, vehicles, tree cutting activities, and associated activities will be confined to existing access roads, road shoulders, and disturbed or designated work areas. Work areas will be limited to what is necessary for tree cutting and associated activities.

3. All equipment, when not in use, will be stored in upland areas outside of the boundaries of waterways/meadows.

4. All vehicles and mechanical equipment will be well maintained to prevent leaks of fuels, lubricants, or other fluids into Waters of the United States, waterways, or sensitive watershed areas, such as meadows.

5. All equipment and vehicles operating off-road must be free of invasive plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter the project area.

6. Environmentally Sensitive Areas: Prior to the start of construction, Environmentally Sensitive Areas (ESAs) – defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed – will be clearly delineated by a qualified biologist using high visibility orange flagging. This includes wetlands, meadows, lakes, streams, waterways, springs, etc. The ESA flagging will remain in place throughout the duration of the proposed action, while construction activities are ongoing, and will be regularly inspected and fully maintained at all times.

7. Hand Clear Vegetation: Hand clear vegetation in areas where Sierra Nevada yellow-legged frogs are suspected to occur. All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site. A qualified biologist will be present during all vegetation clearing and grubbing activities. Prior to vegetation removal, the qualified biologist will thoroughly survey the area for Sierra Nevada yellow-legged frogs. Once the qualified biologist has thoroughly surveyed the area, clearing and grubbing may continue without further restrictions on equipment; however, the qualified biologist will remain onsite to monitor for Sierra Nevada yellow-legged frogs until all clearing and grubbing activities are complete.

8. Avoid having crews walk through water/riparian areas to avoid crushing frogs and spreading disease.

9. Minimize or avoid cutting within riparian areas/aquatic habitat. However, if riparian trees are marked for removal, additional measures should be implemented to minimize impacts, such as:

    a. Trees should be removed with specialized equipment, such as a long mechanical arm that can lift the tree to avoid dragging it through wet areas or riparian vegetation;

    b. Trees will not be felled on top of each other as this creates a higher fuel bed and potentially unsafe condition;

    c. Avoid damage to residual trees. If this is unavoidable, contact the contract administrator prior to felling trees to consider alternatives; and

d. Fell trees away from riparian or aquatic habitat whenever possible. There would be instances when hazard trees cannot physically be felled away from streams due to lean or other factors. When these trees pose an unacceptable hazard to the public, the trees would be felled in a manner that has the least direct impacts to the stream.

10. Locate new log landings or reuse old landings located in such a way as to avoid watershed impacts and associated water quality degradation. Landing locations will be selected that involve the least amount of excavation and the least erosion potential, and to the extent feasible are well outside of riparian habitat; near the ridges away from headwater swales in areas that will allow skidding without crossing channels; and without causing direct deposit of soil and debris to the stream. Landings will be located where the least amount of skid roads will be required, and sidecast can be stabilized without entering drainages or affecting other sensitive areas. Landings will be positioned such that the skid road approach will be as nearly level as possible to promote safety, and protect the soil from erosion. The number of skid trails entering a landing will be kept to a minimum.

11. Avoid use of and heavy equipment in riparian areas. Exposed limbs from felled trees will be cut prior to skidding, as necessary to minimize damage to the residual vegetation during skidding. The careful control of skidding patterns will serve to avoid on-site and downstream channel instability, build-up of destructive runoff flows, and erosion in sensitive watershed areas, such as meadows and streamside management zones.

12. Suitable Erosion Control Materials: If erosion control measures are necessary, erosion control materials (e.g., silt fencing and fiber rolls) that use plastic or synthetic monofilament netting will not be used within the Action Area to prevent Sierra Nevada yellow-legged frogs from becoming entangled, trapped, or injured. No prescribed fire or pile burning will be done within 82 feet of unoccupied perennial or intermittent streams, and 750 feet upstream and downstream of sites identified as occupied.

13. Accidental Spills, SWPPP, Erosion Control, and BMPs: As soon as possible, 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 of the appropriate measures to implement if a spill occurs. Storm-water pollution prevention plans and erosion control BMPs will be developed and implemented 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 storm-water and non-storm-water discharges. Protective measures will include, at a minimum:

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

    b. Vehicle and equipment fueling and maintenance operations must be at least 50 feet away from aquatic or riparian habitat 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.

c. Spill containment kits will be maintained onsite at all times during construction operations and/or staging or fueling of equipment.

d. Materials containing possible contaminants, such as fuels, lubricants, oils, or solvents, will be stored offsite or in sealable containers at designated locations per applicable permits and the County's requirements.

From:	Klein, Chelsea
To:	Buzzell, Gary@CalOES; Ibrahim, Ramzi@CalOES; Nelson, Patricia@CalOES
Cc:	Starnes, Lynn
Subject:	FW: [EXTERNAL] DR-4610 and DR-4619, CA - FEMA-USFWS Emergency Consultation - Private Property Debris Removal
Date:	Friday, October 15, 2021 8:09:16 AM
Attachments:	image003.png image004.png PPDR FEMA-4610-DR-CA and 4619-DR-CA Conservation Measures.pdf

EHPers,

See attached conservation measures for ESA from FWS for PPDR.

Let me know if you have any questions.

Thanks,

Chelsea D. Klein, MA, CFM
Lead Environmental Planning and Historic Preservation Advisor | OEHP I FIMA
DR 4610 CA
DR 4619 CA
Mobile: 816-872-2014
Chelsea.Klein@fema.dhs.gov I Pronouns: she/her

Federal Emergency Management Agency
fema.gov

From: Kramer, Stefanie B <stefanie_kramer@fws.gov>
Sent: Thursday, September 23, 2021 8:57 AM
To: Gosliner, Emma <emma.gosliner@fema.dhs.gov>; Klein, Chelsea <Chelsea.Klein@fema.dhs.gov>
Cc: Starnes, Lynn <lynn.starnes@fema.dhs.gov>; McGaffey, Ethan <ethan.mcgaffey@fema.dhs.gov>; Audin, Michael <michael.audin@fema.dhs.gov>; Havens, Michelle R <michelle_havens@fws.gov>; Kuyper, Richard <richard_kuyper@fws.gov>
Subject: Re: [EXTERNAL] DR-4610 and DR-4619, CA - FEMA-USFWS Emergency Consultation - Private Property Debris Removal

Good morning Emma and Chelsea,

Based on our review of FEMA's Notification of Emergency for Private Property Debris Removal (PPDR), dated September 16, 2021, and information regarding burn severity, the project area does not appear to provide current suitable habitat for the Sierra Nevada Yellow-legged frog. However, we were not provided with enough information to fully assess the suitability of the habitat at the project level to determine the likelihood of Sierra Nevada Yellow-legged frog presence in the project area. Therefore, the project area may provide suitable habitat for the species in lower severity burn areas, refuges, and as habitat recovery continues post-fire.

We suggest that a qualified biologist conducts a desktop level assessment of all Private Property Debris Removal site-specific project areas to identify any potential Sierra Nevada Yellow-legged frog habitat that may remain within or adjacent to any particular work site. We additionally suggest a pre-construction survey for the Sierra Nevada Yellow-legged frog in any areas that are identified during the desktop assessment.

However, we understand this is an emergency situation and implementation of the proposed project is urgent and that hazardous materials are present within the burn area; therefore, a pre-construction survey may not be feasible. Regardless, the workers should be aware of the possible presence of the Sierra Nevada Yellow-legged frog, and they should be informed of the following protocol: If a Sierra Nevada Yellow-legged frog is detected in the project area, the Service should be contacted immediately for further guidance. The applicant should do whatever is feasible to avoid directly or indirectly affecting the individual(s) without significantly disrupting the proposed emergency actions.

Conservation measures are attached for FEMA to consider implementing as part of the proposed project to minimize the effects of the emergency response action on listed species. In that context, these measures are recommended to FEMA, as practicable in recognition that human health and public safety are paramount. If listed species are adversely affected during an emergency response action, formal consultation with the Service should be initiated as soon as practicable after the emergency is under control.

If you have any questions about this response, please feel free to contact me.

Thank you,

Stefanie

_____
Stefanie Kramer (she/her/hers)
Fish and Wildlife Biologist
Sacramento Valley Division

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In an effort to slow the spread of the coronavirus (COVID-19), staff in the Sacramento Fish and Wildlife Office have implemented an aggressive telework schedule. At this time, we are responding to requests for information via email or phone as often as possible as we do not have the in-office capacity to support regular mail service. We appreciate your understanding.

From: Gosliner, Emma <emma.gosliner@fema.dhs.gov>
Sent: Thursday, September 16, 2021 5:11 PM
To: Kramer, Stefanie B <stefanie_kramer@fws.gov>; Havens, Michelle R <michelle_havens@fws.gov>
Cc: Klein, Chelsea <Chelsea.Klein@fema.dhs.gov>; Starnes, Lynn <lynn.starnes@fema.dhs.gov>; McGaffey, Ethan <ethan.mcgaffey@fema.dhs.gov>; Audin, Michael <michael.audin@fema.dhs.gov>
Subject: [EXTERNAL] DR-4610 and DR-4619, CA - FEMA-USFWS Emergency Consultation - Private Property Debris Removal

Good Afternoon Stefanie and Michelle,

Please accept the attached notification as an initiation to emergency consultation under the provisions of the Endangered Species Act (ESA) for an emergency as stipulated under Title 50 of the Code of Federal Regulations (CFR) §402.05, for actions to be conducted in response to the recent statewide wildfires resulting in Major Disaster Declarations FEMA-4610-DR-CA and FEMA-4619-DR-CA.

The State of California's Office of Emergency Services (Cal OES) will be requesting that FEMA provide Private Property Debris Removal (PPDR) assistance for the expedited removal and disposal of debris from numerous wildfires within the five (5) declared counties. The action area is within the USFWS Sacramento jurisdiction. Additional information is included in the attached FEMA notification.

If you have any questions, please contact me or Chelsea Klein at Chelsea.klein@fema.dhs.gov or (816) 872-2014.

Please acknowledge the receipt of this notification by replying to all.
Thank you very much,

Emma Gosliner
Biologist, Environmental Protection Specialist | FEMA Region IX
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Federal Emergency Management Agency
fema.gov

OCT 4 2007

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Rodney R. McInnis
Regional Administrator
National Marine Fisheries Service
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, CA 90802-4213

Re: Streamlining Endangered Species Act Section 7 Consultation in Disasters by Incorporating Stream Crossing Guidelines for Salmonid Passage

Dear Mr. McInnis:

Thank you for your March 23, 2007, letter encouraging the Federal Emergency Management Agency (FEMA) to adopt the National Marine Fisheries Service (NMFS) engineering guidelines for stream-crossings in disaster recovery operations in California. We appreciate and welcome your assistance in identifying methods for streamlining Endangered Species Act (ESA), Section 7 consultation and reducing the costs of the associated consultation. As you know, these programmatic consultations are a critical tool for providing timely and effective assistance to local communities while meeting the intent and goals of the laws that protect our natural resources and the environment.

FEMA will adopt these guidelines, when practicable, as a method to minimize the impacts on listed species of anadromous salmonids, including distinct population segments and evolutionary significant units, and designated critical habitats. Implementation of the guidelines will be conducted pursuant to the Programmatic Biological Assessment (PBA) for California disasters that addresses species and critical habitats under NMFS jurisdiction and will allow FEMA to obtain programmatic 'Not Likely to Adversely Affect' determination for water crossing actions as described in the PBA.

In making this decision, we would like to clarify its applicability to FEMA's actions.

First, FEMA will adopt these guidelines only for areas established in the PBA (Section 3.1: Action Area) for the associated major disaster declaration. As stated in the PBA, FEMA may choose to expand the action area in the future to include other declared areas.

Second, FEMA will adopt these minimization measures only for water crossing projects in streams that have been identified by NMFS as fishways for Federally listed endangered/ threatened species, and only in those streams that have been listed as critical habitats. As established in the PBA, stream crossing actions occurring in streams where there are no known

Federally listed anadromous species and/or which fall outside of Federally listed habitats will be subject to the programmatic "No Effect" determination and will not need to follow the guidelines.

Third, FEMA will adopt these measures only when an otherwise eligible project contains a stream crossing that has been substantially damaged by the flood disaster and requires replacement. We will not follow these guidelines for the repair of damaged stream crossings to their pre-disaster conditions that do not require replacement of the structure.

Finally, it is important to point out that, although the adoption of these guidelines may mitigate future damages to these facilities, FEMA will not adopt these guidelines for hazard mitigation purposes. FEMA will implement this recommendation as a reasonable and prudent measure as determined by NMFS as a result of Section 7 consultation through its authority under ESA as well as in consideration of the Magnuson-Stevens Act, and the Fish and Wildlife Coordination Act. FEMA interprets its acceptance of this recommendation as a compliance requirement to meet its legal environmental responsibilities as a result of the PBA and not as recognizing or adopting this as a new code and standard or hazard mitigation as defined under the statutory and regulatory authority of the Public Assistance Program.

We appreciate the time and assistance you have provided in helping us reach this mutually beneficial streamlined approach to Section 7 consultation under ESA. We hope we can continue to work together to identify efficient and effective approaches that serve the missions of both agencies.

Sincerely,

Carlos J. Castillo
Assistant Administrator
Disaster Assistance Directorate

cc: Nancy Ward
Regional Administrator
FEMA Region IX

National Marine Fisheries Service

GUIDELINES FOR SALMONID PASSAGE AT STREAM CROSSINGS

For Applications in California at Engineered Stream Crossings to Facilitate Passage of Anadromous Salmonids

Original Issue Date: September 2001

Addendum Issue Date: September 2019

ADDENDUM

NMFS 2001 GUIDELINES FOR SALMONID PASSAGE AT STREAM CROSSINGS

August 30, 2019

Applicable to anadromous salmonid watersheds of California

The National Marine Fisheries Service (NMFS), Southwest Region, issued *Guidelines for Salmonid Passage at Stream Crossings* in September, 2001. Since that time there has been more field-based monitoring of juvenile salmonid migration behaviors, along with scientific study of the diversity of California's hydrologic conditions[1] and new laboratory-based research on juvenile fish leaping ability.[2] Additionally, the 2001 guidelines are sometimes applied in settings for which they were not intended. For these reasons we hereby amend the 2001 guidelines with the following modifications.

1. The NMFS 2001 guidelines apply to the design of fish passage projects for stream crossings (e.g., culverts and bridges), inside stream crossing structures, and to adjacent inlet and outlet works to the structure in anadromous fish watersheds of California).
2. The maximum hydraulic drop for juvenile salmonids is increased from 6" to 12" as a general guideline. Site specific considerations may justify a different maximum hydraulic drop such as the presence of very small or critically endangered fish, very cold water, or matching the gradient of the local reference reach.
3. The high fish passage design flow for all hydraulic designs should be 50% of the 2-year event (where less than 20 years of gauge data exist) or the 1% exceedance flow during the migration season (where 20+ years of gauge data exist. Where appropriate gauge data does not exist, consult with NMFS fish passage specialists to determine the best method for determining a high fish passage design flow.

New guidelines for most salmonid habitat settings including stream crossings are in preparation, with anticipated issuance in 2022. Until new guidelines are issued, NMFS requests that users of the 2001 (California) stream crossing design guidelines

1. Apply the guidelines to the settings where they are intended,

2. Explore alternative approaches as prioritized in 2001,

3. Seek technical assistance for all other fish passage problems.

Please direct any questions regarding this Addendum and the NMFS 2001 Guidelines to:
Environmental Services Branch Supervisor
National Marine Fisheries Service
777 Sonoma Avenue, Suite 325
Santa Rosa, CA 95404
Main office phone: 707-575-6050

[1] Lang and Love, August 2014, *Comparing Fish Passage Opportunity Using Different Fish Passage Design Flow Criteria in Three West Coast Climate Zones*, prepared for National Marine Fisheries Service, Santa Rosa, CA.
[2] *NMFS Technical Memo - Interim Juvenile Jump Test Results*, NMFS-Santa Rosa, August 2019.

GUIDELINES FOR SALMONID PASSAGE AT STREAM CROSSINGS

For Applications in California at Engineered Stream Crossings to Facilitate Passage of Anadromous Salmonids

1.0 INTRODUCTION

This document provides guidelines for design of stream crossings to aid upstream and downstream passage of migrating salmonids. It is intended to facilitate the design of a new generation of stream crossings, and assist the recovery of threatened and endangered salmon species. These guidelines are offered by the National Marine Fisheries Service, Southwest Region (NMFS-SWR), as a result of its responsibility to prescribe fishways under the Endangered Species Act, the Magnuson-Stevens Act, the Federal Power Act, and the Fish and Wildlife Coordination Act. The guidelines apply to all public and private roads, trails, and railroads within the range of anadromous salmonids in California.

Stream crossing design specifications are based on the previous works of other resource agencies along the U.S. West Coast. They embody the best information on this subject at the time of distribution. Meanwhile, there is mounting evidence that impassable road crossings are taking a more significant toll on endangered and threatened fish than previously thought. New studies are revealing evidence of the pervasive nature of the problem, as well as potential solutions. Therefore, this document is appropriate for use until revised, based on additional scientific information, as it becomes available.

The guidelines are general in nature. There may be cases where site constraints or unusual circumstances dictate a modification or waiver of one or more of these design elements. Conversely, where there is an opportunity to protect salmonids, additional site-specific criteria may be appropriate. Variances will be considered by the NMFS on a project-by-project basis. When variances from the technical guidelines are proposed, the applicant must state the specific nature of the proposed variance, along with sufficient biological and/or hydrologic rationale to support appropriate alternatives. Understanding the spatial significance of a stream crossing in relation to salmonid habitat within a watershed will be an important consideration in variance decisions.

Protocols for fish-barrier assessment and site prioritization are under development by the California Department of Fish and Game (CDFG). These will be available in updated versions of the *California Salmonid Stream Habitat Restoration Manual*. Most streams in California also support important populations of non-salmonid fishes, amphibians, reptiles, macroinvertebrates, insects, and other organisms important to the aquatic food web. Some of these may also be threatened or endangered species and require "ecological connectivity" that dictate other design criteria not covered in this document. Therefore, the project applicant should check with the local Fish and Game office, the U.S. Fish and Wildlife Service (USFWS), and/or tribal biologists to ensure other species are fully considered.

The California Department of Transportation Highway Design Manual defines a culvert as “a closed conduit which allows water to pass under a highway,” and in general, has a single span of

less than 20 feet or multiple spans totaling less than 20 feet. For the purpose of fish passage, the distinction between bridge, culvert or low water crossing is not as important as the effect the structure has on the form and function of the stream. To this end, these criteria conceptually apply to bridges and low water crossings, as well as culverts.

2.0 PREFERRED ALTERNATIVES AND CROSSINGS

The following alternatives and structure types should be considered in order of preference:

1. *Nothing* - Road realignment to avoid crossing the stream
2. *Bridge* - spanning the stream to allow for long term dynamic channel stability
3. *Streambed simulation strategies* - bottomless arch, embedded culvert design, or ford
4. *Non-embedded culvert* - this is often referred to as a hydraulic design, associated with more traditional culvert design approaches limited to low slopes for fish passage
5. *Baffled culvert, or structure designed with a fishway* - for steeper slopes

If a segment of stream channel where a crossing is proposed is in an active salmonid spawning area then only full span bridges or streambed simulations are acceptable.

3.0 DESIGNING NEW AND REPLACEMENT CULVERTS

The guidelines below are adapted from culvert design criteria published by many federal and state organizations including the California Department of Fish and Game (CDFG, 2001). It is intended to apply to new and replacement culverts where fish passage is legally mandated or important.

3.1 Active Channel Design Method

The Active Channel Design method is a simplified design that is intended to size a culvert sufficiently large and embedded deep enough into the channel to allow the natural movement of bedload and formation of a stable bed inside the culvert. Determination of the high and low fish passage design flows, water velocity, and water depth is not required for this method since the stream hydraulic characteristics within the culvert are intended to mimic the stream conditions upstream and downstream of the crossing. This design method is usually not suitable for stream channels that are greater than 3% in natural slope or for culvert lengths greater than 100 feet. Structures for this design method are typical round, oval, or squashed pipes made of metal or reinforced concrete.

- Culvert Width - The minimum culvert width shall be equal to, or greater than, 1.5 times the active channel width.

- Culvert Slope - The culvert shall be placed level (0% slope).

- Embedment - The bottom of the culvert shall be buried into the streambed not less than 20% of the culvert height at the outlet and not more than 40% of the culvert height at the inlet.

3.2 Stream Simulation Design Method

The Stream Simulation Design method is a design process that is intended to mimic the natural stream processes within a culvert. Fish passage, sediment transport, flood and debris conveyance within the culvert are intended to function as they would in a natural channel. Determination of the high and low fish passage design flows, water velocity, and water depth is not required for this option since the stream hydraulic characteristics within the culvert are designed to mimic the stream conditions upstream and downstream of the crossing. The structures for this design method are typically open bottomed arches or boxes but could have buried floors in some cases. These culverts contain a streambed mixture that is similar to the adjacent stream channel. Stream simulation culverts require a greater level of information on hydrology and geomorphology (topography of the stream channel) and a higher level of engineering expertise than the Active Channel Design method.

- Culvert Width - The minimum culvert width shall be equal to, or greater than, the bankfull channel width. The minimum culvert width shall not be less than 6 feet.

- Culvert Slope - The culvert slope shall approximate the slope of the stream through the reach in which it is being placed. The maximum slope shall not exceed 6%.

- Embedment - The bottom of the culvert shall be buried into the streambed not less than 30% and not more than 50% of the culvert height. For bottomless culverts the footings or foundation should be designed for the largest anticipated scour depth.

3.3 Hydraulic Design Method

The Hydraulic Design method is a design process that matches the hydraulic performance of a culvert with the swimming abilities of a target species and age class of fish. This method targets distinct species of fish and therefore does not account for ecosystem requirements of non-target species. There are significant errors associated with estimation of hydrology and fish swimming speeds that are resolved by making conservative assumptions in the design process. Determination of the high and low fish passage design flows, water velocity, and water depth are required for this option.

The Hydraulic Design method requires hydrologic data analysis, open channel flow hydraulic calculations and information on the swimming ability and behavior of the target group of fish. This design method can be applied to the design of new and replacement culverts and can be used to evaluate the effectiveness of retrofits of existing culverts.

- Culvert Width - The minimum culvert width shall be 3 feet.

- Culvert Slope - The culvert slope shall not exceed the slope of the stream through the reach in which it is being placed. If embedment of the culvert is not possible, the maximum slope shall not exceed 0.5%.

- Embedment - Where physically possible, the bottom of the culvert shall be buried into the

streambed a minimum of 20% of the height of the culvert below the elevation of the tailwater control point downstream of the culvert. The minimum embedment should be at least 1 foot. Where physical conditions preclude embedment, the hydraulic drop at the outlet of a culvert shall not exceed the limits specified above.

Hydrology for Fish Passage under the Hydraulic Design Method

- **High Fish Passage Design Flow** - The high design flow for adult fish passage is used to determine the maximum water velocity within the culvert. Where flow duration data is available or can be synthesized the high fish passage design flow for adult salmonids should be the 1% annual exceedance. If flow duration data or methods necessary to compute them are not available then 50% of the 2 year flood recurrence interval flow may be used as an alternative. Another alternative is to use the discharge occupied by the cross-sectional area of the active stream channel. This requires detailed cross section information for the stream reach and hydraulic modeling. For upstream juvenile salmonid passage the high design flow should be the 10% annual exceedance flow.

- **Low Fish Passage Design Flow** - The low design flow for fish passage is used to determine the minimum depth of water within a culvert. Where flow duration data is available or can be synthesized the 50% annual exceedance flow or 3 cfs, whichever is greater, should be used for adults and the 95% annual exceedance flow or 1 cfs, whichever is greater, should be used for juveniles.

Maximum Average Water Velocities in the Culvert at the High Fish Passage Design Flow - Average velocity refers to the calculated average of velocity within the barrel of the culvert. Juveniles require 1 fps or less for upstream passage for any length culvert at their High Fish Passage Design Flow. For adult salmonids use the following table to determine the maximum velocity allowed.

Culvert Length (ft)	Velocity (fps) - Adult Salmonids
<60	6
60-100	5
100-200	4
200-300	3
>300	2

Minimum Water Depth at the Low Fish Passage Design Flow - For non-embedded culverts, minimum water depth shall be twelve 12 inches for adult steelhead and salmon, and six 6 inches for juvenile salmon.

Juvenile Upstream Passage - Hydraulic design for juvenile upstream passage should be based on representative flows in which juveniles typically migrate. Recent research (NMFS, 2001, in progress) indicates that providing for juvenile salmon up to the 10% annual exceedance flow will cover the majority of flows in which juveniles have been observed moving upstream. The

maximum average water velocity at this flow should not exceed 1 fps. In some cases over short distances 2 fps may be allowable.

Maximum Hydraulic Drop - Hydraulic drops between the water surface in the culvert and the water surface in the adjacent channel should be avoided for all cases. This includes the culvert inlet and outlet. Where a hydraulic drop is unavoidable, its magnitude should be evaluated for both high design flow and low design flow and shall not exceed 1 foot for adults or 6 inches for juveniles. If a hydraulic drop occurs at the culvert outlet, a jump pool of at least 2 feet in depth should be provided.

3.4 Structural Design and Flood Capacity

All culvert stream crossings, regardless of the design option used, shall be designed to withstand the 100-year peak flood flow without structural damage to the crossing. The analysis of the structural integrity of the crossing shall take into consideration the debris loading likely to be encountered during flooding. Stream crossings or culverts located in areas where there is significant risk of inlet plugging by flood borne debris should be designed to pass the 100-year peak flood without exceeding the top of the culvert inlet (Headwater-to-Diameter Ratio less than one). This is to ensure a low risk of channel degradation, stream diversion, and failure over the life span of the crossing. Hydraulic capacity must be compensated for expected deposition in the culvert bottom.

3.5 Other Hydraulic Considerations

Besides the upper and lower flow limit, other hydraulic effects need to be considered, particularly when installing a culvert:

- Water surface elevations in the stream reach must exhibit gradual flow transitions, both upstream and downstream. Abrupt changes in water surface and velocities must be avoided, with no hydraulic jumps, turbulence, or drawdown at the entrance. A continuous low flow channel must be maintained throughout the entire stream reach.
- In addition, especially in retrofits, hydraulic controls may be necessary to provide resting pools, concentrate low flows, prevent erosion of stream bed or banks, and allow passage of bedload material.
- Culverts and other structures should be aligned with the stream, with no abrupt changes in flow direction upstream or downstream of the crossing. This can often be accommodated by changes in road alignment or slight elongation of the culvert. Where elongation would be excessive, this must be weighed against better crossing alignment and/or modified transition sections upstream and downstream of the crossing. In crossings that are unusually long compared to streambed width, natural sinuosity of the stream will be lost and sediment transport problems may occur even if the slopes remain constant. Such problems should be anticipated and mitigated in the project design.

4.0 RETROFITTING CULVERTS

For future planning and budgeting at the state and local government levels, redesign and

replacement of substandard stream crossings will contribute substantially to the recovery of salmon stocks throughout the state. Unfortunately, current practices do little to address the problem: road crossing corrections are usually made by some modest level of incremental, low cost "improvement" rather than re-design and replacement. These usually involve bank or structure stabilization work, but frequently fail to address fish passage. Furthermore, bank stabilization using hard point techniques frequently denigrates the habitat quality and natural features of a stream. Nevertheless, many existing stream crossings can be made better for fish passage by cost-effective means. The extent of the needed fish passage improvement work depends on the severity of fisheries impacts, the remaining life of the structure, and the status of salmonid stocks in a particular stream or watershed.

For work at any stream crossing, site constraints need to be taken into consideration when selecting options. Some typical site constraints are ease of structure maintenance, construction windows, site access, equipment, and material needs and availability. The decision to replace or improve a crossing should fully consider actions that will result in the greatest net benefit for fish passage. If a particular stream crossing causes substantial fish passage problems which hinder the conservation and recovery of salmon in a watershed, complete redesign and replacement is warranted. *Consolidation and/or decommissioning of roads can sometimes be the most cost-effective option*. Consultations with NMFS or CDFG biologists can help in selecting priorities and alternatives.

Where existing culverts are being modified or retrofitted to improve fish passage, the Hydraulic Design method criteria should be the design objective for the improvements. However, it is acknowledged that the conditions that cause an existing culvert to impair fish passage may also limit the remedies for fish passage improvement. Therefore, short of culvert replacement, the Hydraulic Design method criteria should be the goal for improvement but not necessarily the required design threshold.

Fish passage through existing non-embedded culverts may be improved through the use of gradient control weirs upstream or downstream of the culvert, interior baffles or weirs, or in some cases, fish ladders. However, these measures are not a substituted for good fish passage design of new or replacement culverts. The following guidelines should be used:

- **Hydraulic Controls -** Hydraulic controls in the channel upstream and/or downstream of a culvert can be used to provide a continuous low flow path through culvert and stream reach. They can be used to facilitate fish passage by establishing the following desirable conditions: Control depth and water velocity within culvert, concentrate low flows, provide resting pools upstream and downstream of culvert and prevent erosion of bed and banks. A change in water surface elevation of up to one foot is acceptable for adult passage conditions, provided water depth and velocity in the culvert meet other hydraulic guidelines. A jump pool must be provided that is *at least* 1.5 times the jump height, or a minimum of two feet deep, whichever is deeper.

- **Baffles** - Baffles may provide incremental fish passage improvement in culverts with excess hydraulic capacity that cannot be made passable by other means. Baffles may increase clogging and debris accumulation within the culvert and require special design considerations specific to the baffle type. Culverts that are too long or too high in gradient require resting

pools, or other forms of velocity refuge spaced at increments along the culvert length.

- **Fishways** - Fishways are generally not recommended, but may be useful for some situations where excessive drops occur at the culvert outlet. Fishways require specialized site-specific design for each installation. A NMFS or CDFG fish passage specialist should be consulted.

- **Multiple Culverts** - Retrofitting multiple barrel culverts with baffles in one of the barrels may be sufficient as long as low flow channel continuity is maintained and the culvert is reachable by fish at low stream flow.

5.0 OTHER GENERAL RECOMMENDATIONS

Trash racks and livestock fences should not be used near the culvert inlet. Accumulated debris may lead to severely restricted fish passage, and potential injuries to fish. Where fencing cannot be avoided, it should be removed during adult salmon upstream migration periods. Otherwise, a minimum of 9 inches clear spacing should be provided between pickets, up to the high flow water surface. Timely clearing of debris is also important, even if flow is getting around the fencing. Cattle fences that rise with increasing flow are highly recommended.

Natural or artificial supplemental lighting should be provided in new and replacement culverts that are over 150 feet in length. Where supplemental lighting is required the spacing between light sources shall not exceed 75 feet.

The NMFS and the CDFG set in-stream work windows in each watershed. Work in the active stream channel should be avoided during the times of year salmonids are present. Temporary crossings, placed in salmonid streams for water diversion during construction activities, should meet all of the guidelines in this document. However, if it can be shown that the location of a temporary crossing in the stream network is not a fish passage concern at the time of the project, then the construction activity only needs to minimize erosion, sediment delivery, and impact to surrounding riparian vegetation.

Culverts shall only be installed in a de-watered site, with a sediment control and flow routing plan acceptable to NMFS or CDFG. The work area shall be fully restored upon completion of construction with a mix of native, locally adapted, riparian vegetation. Use of species that grow extensive root networks quickly should be emphasized. Sterile, non-native hybrids may be used for erosion control in the short term if planted in conjunction with native species.

Construction disturbance to the area should be minimized and the activity should not adversely impact fish migration or spawning. If salmon are likely to be present, fish clearing or salvage operations should be conducted by qualified personnel prior to construction. If these fish are listed as threatened or endangered under the federal or state Endangered Species Act, consult directly with NMFS and CDFG biologists to gain authorization for these activities. Care should be taken to ensure fish are not chased up under banks or logs that will be removed or dislocated by construction. Return any stranded fish to a suitable location in a nearby live stream by a method that does not require handling of the fish.

If pumps are used to temporarily divert a stream to facilitate construction, an acceptable fish screen must be used to prevent entrainment or impingement of small fish. Contact NMFS or CDFG hydraulic engineering staff for appropriate fish screen specifications. Unacceptable wastewater associated with project activities shall be disposed of off-site in a location that will not drain directly into any stream channel.

6.0 POST-CONSTRUCTION EVALUATION AND LONG TERM MAINTENANCE AND ASSESSMENT

Post-construction evaluation is important to assure the intended results are accomplished, and that mistakes are not repeated elsewhere. There are three parts to this evaluation:

1) Verify the culvert is installed in accordance with proper design and construction procedures.
2) Measure hydraulic conditions to assure that the stream meets these guidelines.
3) Perform biological assessment to confirm the hydraulic conditions are resulting in successful passage.

NMFS and/or CDFG technical staff may assist in developing an evaluation plan to fit site-specific conditions and species. The goal is to generate feedback about which techniques are working well, and which require modification in the future. These evaluations are not intended to cause extensive retrofits of any given project unless the as-built installation does not reasonably conform to the design guidelines, or an obvious fish passage problem continues to exist. Over time, the NMFS anticipates that the second and third elements of these evaluations will be abbreviated as clear trends in the data emerge.

Any physical structure will continue to serve its intended use only if it is properly maintained. During the storm season, timely inspection and removal of debris is necessary for culverts to continue to move water, fish, sediment, and debris. In addition, all culverts should be inspected at least once annually to assure proper functioning. Summary reports should be completed annually for each crossing evaluated. An annual report should be compiled for all stream crossings and submitted to the resource agencies. A less frequent reporting schedule may be agreed upon for proven stream crossings. Any stream crossing failures or deficiencies discovered should be reported in the annual cycle and corrected promptly.

8.0 DEFINITIONS

These definitions apply to terms used in this document. Meanings may differ when used in another context and are not legal unless otherwise noted. Definitions were shortened, paraphrased or adapted to fit regional conditions and for ease of understanding.

Active Channel: A waterway of perceptible extent that periodically or continuously contains moving water. It has definite bed and banks which serve to confine the water and includes stream channels, secondary channels, and braided channels. It is often determined by the "ordinary high water mark" which means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and

debris, or other appropriate means that consider the characteristics of the surrounding areas.

Bankfull: The point on a streambank at which overflow into the floodplain begins. The floodplain is a relatively flat area adjacent to the channel constructed by the stream and overflowed by the stream at a recurrence interval of about one to two years. If the floodplain is absent or poorly defined, other indicators may identify bankfull. These include the height of depositional features, a change in vegetation, slope or topographic breaks along the bank, a change in the particle size of bank material, undercuts in the bank, and stain lines or the lower extent of lichens and moss on boulders. Field determination of bankfull should be calibrated to known stream flows or to regional relationships between bankfull flow and watershed drainage area.

Bedload: Sand, silt, and gravel, or soil and rock debris rolled along the bottom of a stream by the moving water. The particles of this material have a density or grain size which prevents movement far above or for a long distance out of contact with the streambed under natural flow conditions.

Fish Passage: The ability of both adult and juvenile fish to move both up and down stream.

Flood Frequency: The frequency with which a flood of a given discharge has the probability of recurring. For example, a "100-year" frequency flood refers to a flood discharge of a magnitude likely to occur on the average of once every 100 years or, more properly, has a one-percent chance of being exceeded in any year. Although calculation of possible recurrence is often based on historical records, there is no guarantee that a "100-year" flood will occur at all within the 100-year period or that it will not recur several times.

Flood Prone Zone: Spatially, this area generally corresponds to the modern floodplain, but can also include river terraces subject to significant bank erosion. For delineation, see definition for floodplain.

Floodplain: The area adjacent to the stream constructed by the river in the present climate and inundated during periods of high flow.

Flow Duration Curve: A cumulative frequency curve that shows the percentage of time that specified discharges are equaled or exceeded. Flow duration curves are usually based on daily streamflow and describe the flow characteristics of a stream throughout a range of discharges without regard to the sequence of occurrence. If years of data are plotted the annual exceedance flows can be determined.

Ordinary High Water Mark: The mark along the bank or shore up to which the presence and action of the water are common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics.

Roads: For purposes of these guidelines, roads include all sites of intentional surface disturbance for the purpose of vehicular or rail traffic and equipment use, including all surfaced and unsurfaced roads, temporary roads, closed and inoperable roads, legacy roads, skid trails, tractor roads, layouts, landings, turnouts, seasonal roads, fire lines, and staging areas.

Section 10 and 404 Regulatory Programs: The principal federal regulatory programs, carried out by the U.S. Army Corps of Engineers, affecting structures and other work below mean high water. The Corps, under Section 10 of the River and Harbor Act of 1899, regulates structures in, or affecting, navigable waters of the U.S. as well as excavation or deposition of materials (e.g., dredging or filling) in navigable waters. Under Section 404 of the Federal Water Pollution Control Act Amendments (Clean Water Act of 1977), the Corps is also responsible for evaluating application for Department of the Army permits for any activities that involve the placement of dredged or fill material into waters of the United States, including adjacent wetlands.

Waters of the United States: Currently defined by regulation to include all navigable and interstate waters, their tributaries and adjacent wetlands, as well as isolated wetlands and lakes and intermittent streams.

END

Please direct questions regarding this material to:

National Marine Fisheries Service
Environmental Services Branch
Hydraulic Engineering Staff
777 Sonoma Avenue, Suite 325
Santa Rosa, CA 95404

Phone: (707) 575-6050
Fax: (707) 578-3425

9.0 REFERENCES

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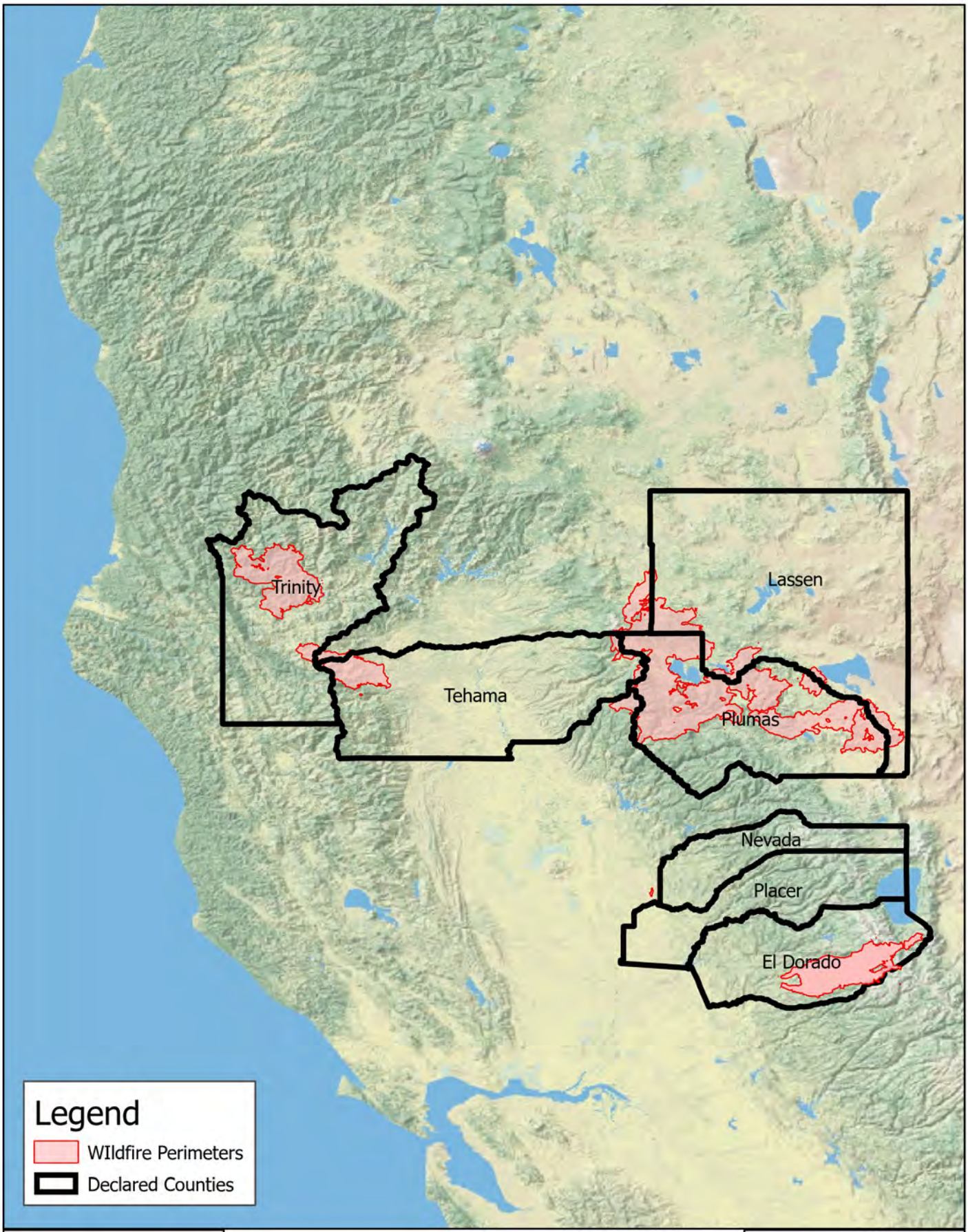
Date: 10/1/2021
To: FEMA
Fr: National Marine Fisheries Service
RE: Emergency ESA Section Consultation request - Private Property Debris Removal related to Federal disaster declarations DR-4610 and DR-4619

Avoidance and Minimization Measures

1. Heavy equipment should not enter the water under any circumstance and there should be no driving of any kind below the OHW mark.
2. Root wads and stumps should be left in place during hazard tree removal to prevent soil erosion. Slash and branches left on ground may help stabilized soils.
3. Trees and branches larger than 12" in diameter and 6' in length may be left in water bodies to provide habitat for fish. Smaller debris, wood chips, and sawdust should not be allowed to enter a waterbody.
4. Standard erosion control measures (e.g., fiber rolls, silt fence, seeding with native or sterile seed, mulching) should be used.
5. A Storm Water Pollution Prevention Plan and erosion control Best Management Practices should be developed and implemented. These materials will include measures to prevent equipment and vehicle leaks, fuel and hazardous material spills, litter and construction debris issues, dust issues, and the use of pesticides.
6. All hazardous materials should be stored in properly designated containers within a storage area with an impermeable membrane between the ground and the hazardous materials. The storage area would be encircled by a berm to prevent the discharge of pollutants to groundwater or runoff into the habitats of listed species
7. All contractors should, to the maximum extent practicable, reduce the amount of disturbance at each site to the absolute minimum necessary to accomplish the project. Any topsoil removed by excavation, grading, trenching, or other means will be stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into listed species habitats. All topsoil will be replaced in a manner to recreate pre-disturbance conditions as closely as possible.
8. To protect sensitive California Central Valley Steelhead, Central Valley spring-run Chinook salmon, and SONCC Coho, all tree removal near rivers of affected counties should be prioritized and completed before mid-December to the extent possible.



FEMA-DR-4610/4619-CA

Counties Declared for PPDR Operations
(Burn Scar Depicted as Reference Only)

N

0 20 40 80
Miles

Scale 1:25,000,000

FEMA

Fish Passage Design for Roadway Crossings Guidance

The Fish Passage Design for Road Crossings Guidance is an engineering document intended to provide detailed instructions to assist Caltrans designers in generating projects that will achieve resource agency goals for fish passage within a state highway project context. It is neither intended as, nor does it establish, a legal standard for these functions. The content is subject to amendment as conditions and experience may warrant. Special situations may call for a variation from the described procedures.

Developed in conformance with the California Department of Fish and Game (CDFG) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service, Southwest Region (PDF) criteria, Fish Passage Design for Road Crossings provides worksheets, flow charts, design examples and other design aids to assist the designer in achieving permit achievable projects.

Other documents that should be used in the design and development of Caltrans fish passage projects include:

- California Fish & Wildlife (CFW) Part XII: Fish Passage Design and Implementation
- CFW Culvert Criteria for Fish Passage, and
- NOAA Fisheries Service Guidelines for Salmonid Passage at Stream Crossings

Click Below to View the Fish Passage Design for Road Crossings Guidance

All Chapters - Complete Download Version (Updated 10/31/2014) (PDF)

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