



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Pacific Southwest Region



January 27, 2023

Kenneth G. Sessa
Acting Environmental Officer
FEMA Region IX
U.S. Department of Homeland Security

Subject: Emergency Consultation Under Section 7 of the Endangered Species Act regarding FEMA-3591-EM-CA - California Severe Winter Storms, Flooding, and Mudslides.

Dear Mr. Sessa:

This letter is in response to your notification of emergency consultation and request for measures to implement to avoid and minimize potential adverse effects to any federally listed species that may be present within the jurisdictional boundaries of the Arcata, Bay Delta, Carlsbad, Sacramento, and Yreka Fish and Wildlife Offices.

To the extent practicable, activities that are implemented or funded by FEMA should be conducted consistent with the programmatic consultations completed with the Arcata & Yreka Fish and Wildlife Offices (dated February 7, 2018), Carlsbad Fish and Wildlife Office (dated May 31, 2019), Sacramento Fish and Wildlife Office (dated March 27, 2019). In addition, we recommend FEMA and any Incident Management Teams implement the attached measures during the emergency response, unless precluded by the necessity to ensure public safety, worker safety, or the protection of property.

After the emergency has abated the FEMA should assess whether any adverse effects to any federally listed species occurred. As soon as possible, you should submit a letter to each of the Fish and Wildlife Offices describing the actions taken and your assessment of the effects on federally listed species in the office's jurisdiction, if any.

Sincerely,

Digitally signed by MARISSA REED
Date: 2023.01.27 17:18:12 -08'00'

Marissa Reed
Regional Section 7 Coordinator

**U.S. Fish and Wildlife Service
Avoidance and Minimization Measures
FEMA Emergency Consultation: FEMA-3591-EM-CA**

January 27, 2023

The Service recommends the following measures to minimize potential effects to listed species or species of concern and their habitats. We recommend FEMA and any Incident Management Teams implement the following measures during the emergency response, unless precluded by the necessity to ensure public safety, worker safety, or the protection of property.

Any deviation from these measures and recommendations are acceptable when life or property is threatened. Under no circumstances should these measures obstruct an emergency response where human life or property is at stake. Safety is the prime directive in emergency situations. Only those measures that do not create a safety hazard should be employed. Likewise, “mission” or the purpose of the response to an emergency should not be compromised, and we defer to on-the-ground FEMA staff or their subcontractors, for response decisions.

Yreka Field Office

The following Avoidance and Minimization Measures (AMMs) are recommended and are commonly employed measures in the Yreka Field Office’s jurisdiction. Not all measures may be practical in every situation, and additional site-specific measures may be appropriate to minimize effects to listed species, species of concern and their habitats during the emergency response. These measures may be duplicative with other Region 8 Field Offices.

Within the Yreka Field Office jurisdiction, these measures are intended to avoid or minimize impacts to the federally endangered Lost River sucker and shortnose sucker, the federally threatened northern spotted owl and its critical habitat, and vernal pool habitats. They will also help avoid or minimize impacts to floral and nectar resources for the federally endangered Franklin’s bumble bee and monarch butterfly, a federal candidate species. They can help conserve denning, resting, and connectivity habitat for the federally threatened coastal marten and the federal at-risk fisher. The talus-specific measures are intended to avoid or minimize impacts to individuals and habitat for the State-threatened and federal at-risk Siskiyou Mountains salamander and Scott Bar salamander.

Coordination

1. Communicate with the Service and applicable Field Office to identify areas or habitats of particular importance for the conservation of listed, proposed, or candidate species.
2. Update the Service as the situation, size of emergency, or response tactics change substantially beyond what was originally described. Confer with affected agency staff to identify areas or habitats of particular import for the conservation of listed, proposed, or candidate species.
3. Include applicable recommendations from this letter in an incident “Action Plan” and brief response staff and agency representatives about federally protected species, localized habitats, and procedures to minimize suppression impacts to listed species.

Avoidance and Minimization Measures

1. Locate any new equipment staging areas to avoid riparian zones and watershed impacts. These locations should be in areas that require the least amount of excavation and the least erosion potential. As feasible, they should be located outside of riparian habitat. Ideal locations are those right along roads or areas away from headwater swales in areas that will allow equipment access or skidding of trees or other material without crossing channels and without causing direct deposit of soil and debris to streams, wetlands, or other waterways. Any sidecast should be stabilized without entering drainages or affecting other sensitive areas to the extent possible.
2. When not in use, all equipment will be stored in upland areas outside of the boundaries of waterways or meadows.
3. Develop a written management plan in case of a petroleum or other chemical spill.
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. Refuel all equipment 150 feet away from waterbodies to protect aquatic habitats.
6. Use containment systems for all pumping stations to avoid fuel spills. Inspect pumps and all fuel cans daily for leaks, and have a spill clean-up kit (e.g., kitty litter, absorbent pads, and trash bags) at each pump site.
7. Equipment will be in good working order and should (if feasible) have standard noise abatement devices attached to reduce disturbance or disruption to listed, at-risk, or migratory bird species; and at the discretion of the project biologist, noise buffers and noise reduction practices (e.g., no backup alarms) will be implemented.
8. Any staging areas, helispots (if needed), water truck fill locations, and road building and reconstruction should avoid areas infested with noxious weeds.
9. Early in the response, establish a 'weed wash' station to ensure vehicles and equipment are free of weed seeds or other materials that may transmit parasites, disease agents, or contaminants; washing sites should be located away from riparian zones and waterbodies.
10. All equipment and vehicles operating off-road should be free of invasive plant material before moving into a 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 a project area.
11. Minimize streambed alteration and maintain fish passage (all life stages) to the extent possible.
12. If water drafting is required as part of the emergency response, use screen intakes for pumps that meet the National Marine Fisheries Service's screening criteria [e.g., a round or square screen mesh that is no larger than 2.38 mm (0.094 inches) in the narrow dimension, or any other shape that is no larger than 1.75 mm (0.069 inches) in the narrow dimension] to avoid the intake of juvenile fish and amphibians.
 - a. Speed of pumping should be adjusted to avoid entrainment of fish and amphibians.
 - b. Amount of water pumped should not dewater the stream reach.
 - c. Whenever practical, use waterbodies not occupied by Lost River and Shortnose sucker, California red-legged frog, Oregon spotted frog, or vernal pools as water

sources. Once the immediate threat of the fire is over, utilize heli-wells to avoid disturbance to listed fish or amphibian species, and relocate portable pumps out of occupied habitat wherever possible.

13. Employ sanitation measures for food, trash, grey water, and human waste.
14. 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.
15. Construct temporary roads only if they are necessary for the protection of property or resources, including federally protected species.
16. Only cut down large live trees and snags (dead trees) where safety concerns override resource concerns.
 - a. If large live trees (those >24 inches diameter at breast height (DBH)) must be felled for operational safety, or if they are determined a hazard, or if they are likely to die within 3-5 years, they should be left onsite as logs at a rate of 2-4 per acre. Trees should not be felled or placed in areas where they can block drainage structures (e.g., culverts, bridges, ditches).
 - b. Hazard trees or snags equal to or larger than 24 inches DBH that need to be felled near streams or riparian areas (typically defined as within 50 feet of a streamcourse or waterway), should be retained on site as large logs at a rate of 2-4 per acre as safely feasible. Logs should be placed so as not to block drainage structures (e.g., culverts, bridges, ditches).
 - c. Avoid damage to residual trees as safely feasible.
17. When felling trees for safety, keep wood in large lengths. In riparian zones, consider dropping trees towards the waterbody to assist with bank stabilization as well as fish habitat enhancement.
18. Avoid, as feasible, the use of and heavy equipment in riparian areas. Exposed limbs from felled trees will be cut prior to removal or skidding, as necessary to minimize damage to residual riparian vegetation during the removal or skidding. The careful control of skidding patterns will serve to avoid the on-site and downstream channel instability and erosion in sensitive watershed areas, such as meadows and streamside management zones.
19. Do not cut log jams out of stream course unless required to insure safety; this includes logs which are half-in or half-out of the stream channel.
20. Minimize or avoid cutting vegetation in riparian areas and wetlands as safely feasible. However, if trees in these areas need to be cut or removed, additional measures should be implemented to minimize impacts, such as:
 - a. Fall and leave the tree in place as large downed wood, as long as there is no risk of it entering the waterway and potentially blocking downstream bridges, culvers, ditches, or other infrastructure.
 - b. If trees need to be removed, they 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.
 - c. Avoid, as feasible, falling trees on top of each other as this can create a higher fuel load and potentially unsafe condition.

21. While not likely feasible in an emergency response situation, do not conduct activities that result in loud or continuous noise above ambient levels for a period of more than 2 hours within 0.25 mile of a known nest site or unsurveyed suitable nesting, roosting, or foraging habitat for the northern spotted owl (NSO) between February 1 and July 9. This includes activities that generate sound levels 20 or more decibels above ambient sound levels, or activities that generate maximum sound levels above 90 decibels. Maximum sound levels are the combined ambient and activity-generated sound levels. As feasible, coordinate with the Service prior to any operations before the limited operating period to obtain information on known nest sites and suitable habitat avoidance maps. Record and provide data on areas where emergency response occurred for the emergency consultation.
22. Both as a matter of aviation safety and avian conservation, pilots should avoid, when possible, low-level flight paths in the vicinity of NSO nesting habitat during the nesting season (February 1 – September 15).
23. Fly at least 500 feet above ground level (AGL) over unsurveyed suitable nesting or occupied NSO habitat during the nesting season (February 1 – September 15).
24. Helicopters and aircraft should maintain a buffer distance of 1,300 feet above the canopy of bald eagle nest trees.
25. To avoid or minimize effects to the Siskiyou Mountain salamander and Scott Bar salamander (which have a narrow range), do not construct new staging areas in talus habitat. Talus habitat is defined as forested, rocky substrates consisting of any rock type (e.g., chert, slate, shale, and schist) with at least some cobble-size pieces (smallest diameter >6.4 cm [2.5 in.]) on the surface that are large enough to provide cover to individual salamanders. The rocky talus slopes have interstitial spaces where salamanders retreat from dry, hot, and sub-freezing conditions above ground to more stable and moist conditions below.
26. As feasible, contact and coordinate with the Service to obtain information on known sites and talus areas that may support the Siskiyou Mountain salamander and Scott Bar salamander.
27. Avoid using heavy equipment or conducting ground disturbing activities in areas of talus during any time of the year. This will protect the integrity of the talus habitat for Siskiyou Mountain and Scott Bar salamanders.
28. Directionally fall trees away from talus areas, as safely feasible.
29. If heavy equipment operation in talus areas is unavoidable, record the locations and weather conditions when work in talus occurred.
30. As feasible, do not conduct ground-disturbing activities in talus habitat when it is raining.
31. Design and implement operations to minimize compaction or degradation of talus habitat. For instance, trees in talus areas may be manually felled and then endlined off of the talus to minimize talus compaction.
32. Record locations of the following as it will be valuable for any rehabilitation efforts and is a necessary component of the “after-the-fact” consultation in accordance with section 7(a)(2) of the ESA:

- a. Highly impacted areas such as new staging areas, newly constructed or excavated safety zones, and sanitation facilities.
- b. Any operations in talus within the range of the Siskiyou Mountains or Scott Bar salamanders.
- c. Newly created, re-opened or re-constructed roads or trails.
- d. Water sources used for drafting, if needed.
- e. Locations of new or temporary culvert or bridge construction or replacement and the timing of these response actions.

Carlsbad Fish & Wildlife Office

To the extent practicable, activities that are implemented or funded by FEMA should be conducted consistent with the Carlsbad Fish and Wildlife Service Field Office (CFWO) FEMA Programmatic Biological Opinion dated May 31, 2019. If emergency activities cannot be conducted consistent with the Programmatic BO (if the exempted amount of take will be exceeded or some measures in the Programmatic BO are not practicable to implement, for example), we recommend that the following measures be implemented. Conservation measures marked with an asterisk (*) are taken directly from the Carlsbad Fish and Wildlife Service Field Office (CFWO) FEMA Programmatic Biological Opinion conservation measures. The following conservation measures are intended to avoid, minimize, and offset incidental take of listed species during emergency work activities for FEMA-3591-EM-CA in areas under the jurisdiction of CFWO. Please note that protection of health and human safety is of primary concern. Please take whatever actions are necessary to protect human health and safety.

General Conservation Measures

1. A biological monitor will monitor all construction-related activities with the potential to impact listed species to ensure that all feasible conservation measures are being implemented. The biological monitor will be familiar with the habitats, plants, and wildlife of the project area, and will be present while equipment is being used to ensure that issues relating to biological resources are appropriately and lawfully managed. The biological monitor will be provided with a copy of these measures. The contracts of the project biologist(s) will allow direct communication with the Service at any time regarding the project.*
2. Prior to any construction activities, the biological monitor will train all contractors and construction personnel on the biological resources associated with the project and ensure that training is implemented by construction personnel. At a minimum, training will include: 1) the purpose for resource protection; 2) a description of the federally listed species that may be within the project area and their habitats; 3) the conservation measures that should be implemented during project construction to avoid impacts to listed species, including strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid sensitive resource areas in the field; 4) environmentally responsible construction practices; 5) the protocol to resolve conflicts that may arise at any time during the construction process.*
3. If time allows, a habitat assessment will be conducted by the biological monitor to determine whether suitable habitat (including foraging, nesting, and dispersal) for listed bird species occurs in the action area. If suitable habitat for this species is identified in the action area and the proposed project may affect suitable habitat that is not known to be occupied by listed bird species, the Service will be contacted regarding the need for surveys according to Service protocol, and those surveys will be conducted, as appropriate.
4. If an active nest is detected during the survey, the following will apply to the extent feasible:

- a. An exclusionary buffer will be established around the nest. The buffer distance will be determined by the biological monitor considering several factors: presence of natural buffers (vegetation/topography), nest height, location of foraging territory, nature of the proposed activities, and baseline levels of noise and human activity. The buffer may range from 50 feet to over 300 feet in width. AND
 - b. The biological monitor will monitor the nest during construction for signs of adverse effects including distress/disturbance. If adverse effects are detected, the biological monitor will provide recommendations to the project proponent to further avoid or minimize potential effects.
 - c. The biological monitor will continue to monitor the nest and determine when young have fledged. Once young have left the nest, the buffer and exclusion zone may be removed, and construction activities within these areas may resume.
5. Any dead specimens will be preserved in accordance with standard museum practices. All preserved specimens will be properly labeled and deposited with one of the designated depositories, including The California Academy of Sciences, San Francisco, California; the Santa Barbara Natural History Museum, Santa Barbara, California; the Los Angeles County Museum of Natural History, Los Angeles, California; or the San Diego Natural History Museum, San Diego, California.
6. California Natural Diversity Database forms will be completed, as appropriate, and submitted to the Biogeographic Data Branch, California Department of Fish and Game (CDFG), 1807 13th Street, Suite 202, Sacramento, California 95811 (also accessible online at <http://www.dfg.ca.gov/biogeodata/cnddb>), with copies submitted to the CFWO. Copies of the form can be obtained from the CDFG at the above address (telephone: 916-324-3812).
7. Avoid night work if feasible. If night work is necessary, night lighting will be of the lowest illumination necessary for human safety, selectively placed, shielded, and directed away from natural habitats.*
8. The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.*
9. The project will avoid the use of galvanized/zinc coated pipe, which can be harmful to wildlife.
10. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.*
11. Appropriate Best Management Practices (BMPs) for erosion and sediment control will be utilized to prevent sediment and construction debris from entering nearby streams, rivers, and watersheds.*
12. Project work will be completed as rapidly as possible to minimize potential disturbance to listed species.
13. Staging and temporary construction areas will be located outside of suitable habitat for listed species and will use existing roads and developed areas to the extent possible. Project impacts will be avoided or minimized in vegetation communities likely to be occupied by listed species, as determined by the biological monitor. All mature riparian vegetation (e.g., willows and cottonwoods) greater than 30 feet in height will be avoided to the maximum extent possible.*
14. If feasible, all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to staging areas. A Spill Prevention, Control, and

Countermeasure plan will be prepared for hazardous spill containment. If it is infeasible to move large equipment (e.g., dredges and support craft, work skiffs, amphibious excavators) to staging areas for fueling, the below measures will be implemented as applicable to avoid impacts to wetlands:

- a. Drip pans and/or absorbent pads will be used during fueling operations.
 - b. Equipment will be inspected for leaks and spills daily, and repairs will be made if necessary.
 - c. Nozzles used in vehicle and equipment fueling will be equipped with an automatic shut-off to control drips. Fueling operations will not be left unattended.
 - d. Adequate spill kits will be onsite; equipment fueling vehicles will be equipped with absorbent pads and spill kit material.
 - e. All oilers and fuel truck operators will be trained to respond to a spill.
 - f. If a noticeable spill occurs, the spill will immediately be contained, contaminated soil will be placed in barrels and removed from the site, and the spill will be documented and reported to the Service.
15. The spread of nonnative weeds during construction activities and revegetation efforts will be controlled. All vehicles will be cleaned and free of mud and debris prior to entering the action area, and all erosion and other sedimentation controls used during and after construction will be certified weed free, as applicable. Weed free hay, straw bales, or mulch maybe available through the California Interagency Noxious Weed Free Forage and Mulch Program (<http://pi.cdfa.gov/weed/wff>).*
16. The biological monitor will submit a final report to the lead agency's project biologist within 120 days of the completion of project construction that includes photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with conservation measures was achieved. The lead agency's project biologist will review the report and forward it to the Service.

Species-Specific Conservation Measures

Arroyo Toad

1. Preconstruction arroyo toad surveys will be conducted by the biological monitor within and adjacent to the work area in the evening and daytime just prior to project work. The biological monitor will check for burrows and/or places where arroyo toads could hide in the project area. In the event of rainfall, the work area will be checked for toads before any work is done. If arroyo toads are found, they will be avoided to the maximum extent feasible. If translocation of arroyo toads is required to move them out of harm's way, such work will be conducted by a biologist permitted by the Service to handle arroyo toads. In order to keep the Service apprised of presence and number of arroyo toads in the project area, the biologist will provide brief email reports to the Service within 24 hours of observing or translocating arroyo toads in association with the project. The biological monitor will search the action area daily for arroyo toads.
2. If it is necessary to relocate arroyo toads out of the project work area, capture methods will follow commonly accepted techniques for amphibian field sampling, including: (i) capture by hand, (ii) dip-netting, (iii) scooping up by container, and (iv) pit-fall trapping.
3. Arroyo toads will be handled in an expedient manner with minimal harm. Captured arroyo toads will not be handled for more than 15 minutes. Any arroyo toad exhibiting signs of physiological distress will be immediately released in the most proximal and safe suitable habitat.

4. The hands and arms of all workers handling arroyo toads will be free of lotions, creams, sunscreen, oils, ointment, insect repellent, or any other material that may harm arroyo toads. To minimize the spread of pathogens, disposable gloves (latex, no powder) should be worn and changed between handling each animal. Gloves should be wetted with water from the site or distilled water prior to handling any amphibians. Gloves should be removed by turning inside out to minimize cross-contamination. Used disposable gloves should be retained for safe disposal in sealed bags.
5. If an arroyo toad is killed or injured, the project lead agency will immediately notify the Service. Within 3 working days, the project lead agency will follow up such verbal notification in writing to the Service. With the written notification, the project lead agency will include a report of the circumstances that led to the injury or mortality.
6. If plastic sheeting is used to control erosion, sand bags will be placed around the entire outer edge to prevent arroyo toads from crawling under it. If plastic sheeting is used, it will not be removed without a biological monitor present to look for arroyo toads and other wildlife.
7. To minimize direct effects to breeding arroyo toads, all project activities within designated critical habitat and occupied habitat will occur outside the breeding season (i.e., the breeding season is March 15 - July 15 for arroyo toad) to the maximum extent practicable. If the breeding season cannot be avoided, the biological monitor will conduct surveys no more than 48 hours prior to project work. If the breeding season cannot be avoided and arroyo toads are found to occur within the action area, the biological monitor will conduct daily surveys prior to project work within the action area until the beginning of the non-breeding season or project activities have ceased.*
8. If project location is in an occupied area, use of heavy machinery will be avoided to the extent practicable when juvenile arroyo toads are known to occupy the bordering banks of suitable water features (i.e., April 15-October 1).*
9. The project will avoid creation of soft piles of dirt that will later be disturbed or removed within arroyo toad habitat. If the project creates any dirt stockpiles, they will be surrounded with silt fencing to prevent arroyo toads from getting into the loose dirt.

Coastal California Gnatcatcher

1. To minimize direct effects to nesting gnatcatchers, all clearing of vegetation within occupied or designated critical habitat (gnatcatcher habitat) will occur outside the breeding season (February 15-August 30) to the extent practicable. If the breeding season cannot be avoided, general conservation measure 3 (addressing avoidance of nests to the extent practicable) will be implemented.*
2. If vegetation clearing will occur within habitat suitable for gnatcatchers, the biological monitor will conduct preconstruction surveys for gnatcatcher and direct construction personnel to begin vegetation clearing in an area away from the gnatcatchers. The biological monitor will also record the number and location of gnatcatchers disturbed by vegetation clearing.

Least Bell's Vireo

1. To minimize direct effects to nesting vireos, all clearing of vegetation within occupied habitat will occur outside the breeding season (i.e., March 15-September 15) to the extent practicable. If the breeding season cannot be avoided, general conservation measure 3 (addressing avoidance of nests to the extent practicable) will be implemented.*
2. If vegetation clearing will occur within habitat suitable for vireos during the breeding season, the monitor will conduct preconstruction surveys for vireo and direct construction personnel to begin

vegetation clearing in an area away from the vireos. The biological monitor will also record the number and location of vireos disturbed by vegetation clearing.

Light-footed Ridgway's Rail

1. To minimize direct effects to nesting rails, all clearing of vegetation within occupied habitat will occur outside the breeding season (i.e., March 15-July 31) to the extent practicable. If the breeding season cannot be avoided, general conservation measure 3 (addressing avoidance of nests to the extent practicable) will be implemented.
2. If vegetation clearing will occur within habitat suitable for rails, the monitor will conduct preconstruction surveys for rails and direct construction personnel to begin vegetation clearing in an area away from the rails. The biological monitor will also record the number and location of rails disturbed by vegetation clearing.
3. Equipment operators will drive at slow speeds (25 miles per hour or below on fenced access roads and staging areas, and 15 miles per hour in areas where rails may occur). Speeds may be reduced at the direction of the biological monitor.
4. Temporary project fencing will be installed to preclude Ridgway's rails from entering construction zones.

Quino Checkerspot Butterfly

1. A habitat assessment will be conducted by a biologist no more than 30 days prior to the onset of ground disturbance to determine whether suitable habitat for the Quino occurs in the action area, in accordance with the Service survey guidelines. The Service guidelines for this species provide a map displaying the areas in southern California where habitat assessments are recommended. During the survey, any locations of Quino or host plants will be clearly marked. Host plants include, but are not limited to, dwarf plantain (*Plantago erecta*), purple owl's clover/Indian paintbrush (*Castilleja exserta* spp. *exserta*), Patagonian plantain (*Plantago patagonica*), white snapdragon (*Anterrhinum coulterianum*), Chinese houses (*Collinsia concolor*), and thread-leaved bird's beak (*Cordylanthus rigidus*). If suitable habitat for this species is identified in the action area and the proposed project may affect suitable habitat that is not known to be occupied by Quino, the Service will be contacted regarding the need for surveys according to Service protocol, and those surveys will be conducted, as appropriate.*
2. Any host plants within Quino occupied or designated critical habitat (Quino habitat) and within 150 feet of the project footprint will be clearly marked and avoided to the maximum extent practicable. Fencing/flagging will be placed along the edge of the work area near any host plants to prevent workers and vehicles from entering this area. Fencing/flagging will be installed prior to any ground-disturbing or vegetation removal activities. The biological monitor will supervise the installation of flagging or fencing around host plants. The fencing/flagging will be placed the maximum distance from the plants that is feasible, while still allowing work to occur in the adjacent area. No construction activities will occur in the fenced/flagged area.*
3. Each day that work occurs within 150 feet of Quino habitat, the biological monitor will monitor for Quino, inspect the fencing/flagging, and immediately address any necessary fencing/flagging repairs.*
4. If avoidance of Quino or its habitat is not possible, then construction will be avoided during the host plant growing season, adult flight season, and larval feeding season (March 1-June 30) to the extent practicable.*
5. Dust will be controlled during construction by periodically watering down construction areas within 100 feet of Quino occupied habitat, as necessary.*

Santa Ana Sucker

1. Project activities in or adjacent to sucker occupied habitat will occur outside the spawning season (i.e., March through July) to the extent feasible.
2. If a project includes the creation of an overflow or flood-bypass channel in a river or stream potentially supporting sucker, the design and construction of such a channel will allow fish passage out of the channel before waters dry up as the floodwater recedes.*
3. In-channel work and channel diversion of live flow during project construction within occupied habitat for the sucker will be conducted in a manner to reduce potential impacts to rearing and migrating sucker. Dewatering will be used to create a dry work area and will be conducted in a manner that minimizes turbidity into nearby waters. To the extent practicable, water diversion and dewatering will include the following measures: *
 - a. Heavy equipment will avoid flowing water other than temporary crossing or diverting activities.*
 - b. Water pumped or removed from dewatered areas will be treated before its release so that it does not contribute turbidity to nearby waters.*
 - c. Pump intakes will be provisioned with National Marine Fisheries Service-approved fish screening as outlined in the California Department of Fish and Wildlife Fish Screening Criteria and National Marine Fisheries Service Fish Screening Criteria for Anadromous Salmonids (NMFS 1997).*
 - d. Temporary culverts to convey live flow during construction activities will be of an adequate size as to not increase stream velocity and placed at stream grade.*
 - e. Silt fences or mechanisms to avoid sediment input to the flowing channel will be erected adjacent to flowing water if sediment input to the stream may occur.*
4. For projects that require fish rescue and relocation, a fish relocation plan will be developed and submitted to the Service for review and comment. This plan will incorporate the latest Service guidance relating to the capture and relocation of fish.*
5. Fish relocation will only be conducted by a fisheries biologist. The fisheries biologist will have knowledge and experience in sucker biology and ecology, fish/habitat relationships, and biological monitoring, and handling, collecting, and relocating sucker or other relevant experience. The biologist will relocate any stranded fish to an appropriate place depending upon the life stage of the fish and flow conditions in the vicinity. The biologist will note the number of individuals observed in the affected area, the number of individuals relocated, the approximate size of individuals, and the date and time of the collection and relocation. One or more of the following methods will be used to capture sucker: electrofishing, dip net, seine, throw net, minnow trap, and hand.*

Recommended conservation measures to offset incidental take of listed species during emergency work activities for FEMA-3591-EM-CA in areas under the jurisdiction of the Carlsbad Fish and Wildlife Service Field Office (CFWO):

1. Restoration of temporary and permanent impacts to listed species' habitat will occur in accordance with a restoration plan that is reviewed and approved by the CFWO prior to implementation of the proposed restoration. All temporary and permanent impacts will be restored with an assemblage of native species consistent the habitat affected and include host plants found in the vicinity of the action area.

2. All areas of temporary and permanent impact will be revegetated and restored with native species. These areas will be returned to original grade, as feasible. A 5-year plant establishment period will be conducted that will include exotic species removal and reapplication of seed as necessary. Temporary impact areas will be planted as soon as possible following re-grading after completion of construction to prevent encroachment by nonnative plants. The applicant will ensure that habitat creation/restoration/enhancement does not include exotic plant species that may be invasive to native habitats. Exotic plant species not to be used include any species listed on the California Invasive Plant Council's (Cal-IPC) "Invasive Plant Inventory" List. This list includes such species as pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of heaven, periwinkle, sweet alyssum, English ivy, French broom, Scotch broom, and Spanish broom. A copy of the complete list can be obtained from Cal-IPC's web site at <http://www.cal-ipc.org>.
3. Any planting stock to be brought onto the project site for habitat creation/restoration/enhancement will be first inspected by a qualified pest inspector to ensure it is free of pest species that could invade natural areas, including but not limited to, Argentine ants (*Linepithema humile*), fire ants (*Solenopsis invicta*) and other insect pests. Any planting stock found to be infested with such pests will not be allowed on the project site or within 300 feet of natural habitats unless documentation is provided to the Agencies that these pests already occur in natural areas around the project site. The stock will be quarantined, treated, or disposed of according to best management principles by qualified experts in a manner that precludes invasions into natural habitats.
4. To the extent practicable, permanent and temporary impacts to listed species and their habitat will be offset through conservation and long-term management of habitat that is occupied by the same species that were impacted by the project. The specific location and acreage of habitat to be conserved will be identified in coordination with the Service.

Bay Delta Fish & Wildlife Office

Delta Smelt: Work within August 1-November 30 work window; Use vibratory hammer when driving piles to reduce noise effects; Use silt curtains

California Clapper Rail: Sept1-Jan31 work window; Avoid marsh habitats if possible; at least a 700-ft noise/visual buffer from habitat.

Project activities will be restricted to daylight hours 30 minutes after sunrise and 30 minutes before sunset.

Project activities should avoid high tides and periods when the marsh plain is inundated.

Salt Marsh Harvest Mouse: Avoid working within tidal marsh and pickleweed; Hand clear pickleweed if can't avoid

Temporary removal of vegetation in work and access areas will reduce their attractiveness as habitat for salt marsh harvest mice.

- Preferably only non-motorized equipment (i.e. hand shears) will be used to remove the vegetation.
- The Service-approved biologist will walk a safe distance in front of vegetation removal equipment to ensure no salt marsh harvest mice are present.
- Vegetation removal shall move in a direction toward salt marsh harvest mouse habitat and continue in a uniform direction.

- Vegetation will be removed to bare ground or stubble no higher than 1 inch. Vegetation will be cut in at least two passes: with the first pass cutting vegetation at approximately half of its height above the ground (mid-canopy) and the next pass, or subsequent passes, cutting vegetation to ground-level or no higher than 1 inch.
- Cut vegetation should not be piled in the area where vegetation removal is taking place (what will be the exclusion area). It should be removed from the exclusion area as it is being cut, so that no standing or cut vegetation remains in the exclusion area when the fence is installed.

To prevent salt marsh harvest mice from moving through work and access areas during operations, temporary exclusion fencing will be placed around the defined work area prior to the start of construction/excavation activities and immediately after vegetation removal. The fence should be made of a non-textured material that does not allow salt marsh harvest mice to pass through or climb (such as Visqueen©), and the bottom should be buried to a depth of at least 4 inches so that animals cannot crawl under the fence. Fence height should be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet. Fence posts should be placed on the work area side (vegetation cleared side) of the fencing. The fencing shall be installed under the supervision of a Service-approved qualified biologist.

The Service-approved biologist will conduct daily surveys to ensure that the exclusion fencing is intact and that no mice have entered the project area.

Project activities will be restricted to daylight hours 30 minutes after sunrise and 30 minutes before sunset.

Project activities should avoid high tides and periods when the marsh plain is inundated.

Potential perches and wildlife cover (stacks of wood, pallets, and piles of debris) will be removed from the proposed project footprint as quickly as possible and as much as is feasible. If they cannot be removed in the short term, they will be covered with tarps and/or enclosed with exclusion fencing or modified with non-lethal anti-perch devices such as spike strips.

Prior to initiation of work activities within suitable habitat, the Service-approved biologist will survey the work area for the presence of salt marsh harvest mice and nests. Surveys will be repeated daily prior to the beginning of project activities at the proposed project site; one or more Service-approved biologists will survey the proposed project site to ensure it is clear of salt marsh harvest mice.

Soft Bird's-Beak & Suisun Thistle: Conduct special status plant surveys in the appropriate blooming period. Avoid work/placement/staging in intertidal/upland areas with suitable habitat, plants, and/or critical habitat

Antioch Dunes evening primrose; Contra Costa wallflower; and Lange's Metalmark butterfly. These species almost only occur on Antioch Dunes National Wildlife Refuge. Rare plant surveys, avoid occurrences/habitat, avoid work within areas containing Lange's Metalmark butterfly host plants (Antioch Dunes naked-stem buckwheat); Dust and sediment containment.

General AMMs

1. For each activity, all construction personnel will participate in a worker environmental awareness program. Under this program, construction personnel will be informed about the

presence of listed species and habitats associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the Service will instruct all construction personnel about: (1) the description and status of the western snowy plover; (2) the importance of its associated habitat; and (3) a list of measures being taken to reduce impacts on this species during proposed project

construction and implementation. A fact sheet conveying this information will be prepared for distribution to the construction crew and anyone else who enters the Project site. A member of the construction crew will be appointed and identified during the environmental awareness program who will be the point of contact for any employee or contractor who might encounter a listed species. The representative's name and telephone number will be provided to the Service prior to the initiation of any activities.

2. A Service-approved biological monitor will be present during all work activities in or immediately adjacent to habitat that could be occupied by federally listed species to look for individuals that may be impacted by construction; activities are considered "immediately adjacent" to sensitive habitat if those activities could result in the physical disturbance of the habitat or if individual listed species could move from that habitat into the proposed project area. The biologist will have stop-work authority if any individual of a federally listed species is detected in an area where it may be injured or killed by construction activities.

3. Use existing roads.

Arcata Fish and Wildlife Office

Northern Spotted Owl (*Strix occidentalis caurina*)

Federal listing status: Threatened: 6/26/1990 (55 FR 26114)

Where listed: Wherever found (California, Oregon, and Washington)

Critical habitat designation: 12/4/2012 (77 FR 71875). Proposed Revised on 07/20/2021 (86 FR 38246).

Recovery plan: 7/1/2011 (76 FR 38575);

https://ecos.fws.gov/docs/recovery_plan/RevisedNSORecPlan2011_1.pdf

California listing status: Threatened (6/21/2017)

Marbled Murrelet (*Brachyramphus marmoratus*)

Federal listing status: Threatened: 10/1/1992 (57 FR 45328)

Where listed: Populations in the United States (California, Oregon, and Washington)

Critical habitat designation: 8/4/2016 (81 FR 51348)

Recovery plan: 9/24/1997 (https://ecos.fws.gov/docs/recovery_plan/970924.pdf)

California listing status: Endangered (3/12/1992)

Yellow-billed Cuckoo (Western Distinct Population Segment of *Coccyzus americanus*)

Federal listing status: Threatened: 11/3/2014 (79 FR 59991)

Where listed: Western DPS: U.S.A. (Arizona, California, Colorado (western), Idaho, Montana (western), New Mexico (western), Nevada, Oregon, Texas (western), Utah, Washington, Wyoming (western)); Canada (British Columbia (southwestern)); Mexico (Baja California, Baja California Sur, Chihuahua, Durango (western), Sinaloa, Sonora)

Critical habitat designation: 4/21/2021 (86 FR 20798)

Recovery plan: Pending

California listing status: Endangered (3/26/1988)

California Red-Legged Frog (*Rana draytonii*)

Federal listing status: Threatened (5/23/1996; 61 FR 25813)
Where listed: Wherever Found (California only)
Critical habitat designation: 3/17/2010 (75 FR 12816)
Recovery plan: 5/28/2002 (https://ecos.fws.gov/docs/recovery_plan/020528.pdf)
California listing status: None

Point Arena Mountain Beaver (*Aplodontia rufa nigra*)

Federal listing status: Endangered: 12/12/1991 (56 FR 64716)
Where listed: Wherever Found (California only)
Critical habitat designation: Not designated
Recovery plan: 6/2/1998 (https://ecos.fws.gov/docs/recovery_plan/980602.pdf)
California listing status: Species of Special Concern, Class I (1986)

Conservation measures

Northern Spotted Owl

Occupied Habitat

If northern spotted owl (NSO) surveys (using the Service’s survey protocol; Service 2012) covering all suitable nesting/roosting habitat within the action area determine that the action area is occupied **or** Caltrans presumes NSO occupancy without conducting surveys, Caltrans will adhere to the following conservation measures:

- a. No suitable NSO nesting/roosting habitat or potentially suitable NSO nest trees will be removed or altered during the nesting season (i.e., from 1 February through 15 September). Removal or alteration of known nest trees (at any time of year) is not covered by this consultation.
- b. Suitable nesting/roosting or foraging habitat may be removed or altered outside the nesting season (i.e., from 16 September through the following 31 January), provided the Service and Caltrans agree that the habitat removal or alteration represents an “insignificant” action; based on the amount of habitat removed or altered and whether the remaining habitat is still considered suitable for NSO nesting/roosting or foraging.
- c. No proposed activity generating sound levels 20 or more decibels above ambient sound levels or with maximum sound levels (ambient sound level plus activity-generated sound level) above 90 decibels (excluding vehicle back-up alarms) may occur within suitable NSO nesting/roosting habitat during the majority of the nesting season (i.e., from 1 February through 31 July). These sound level restrictions will be lifted by the Service after 31 July; after which the Service considers above-ambient sound levels as having “no effect” on nesting adults or dependent young.
- d. No human activities (including use of drones) will occur within a visual line-of-sight of 328 ft. (100 m) or less from any known nest tree within the action area (Service 2020), or from unsurveyed suitable nesting/roosting habitat containing potential NSO nest trees within 100 m of activities proposed to occur during the majority of the NSO nesting season (i.e., 1 Feb through 31 July). These visual disturbance restrictions will be lifted after 31 July; after which the Service considers visual disturbance as having a “no effect” on nesting adults or dependent young. The 100-m visual disturbance distance may be reduced or eliminated through technical assistance with the Service if site-specific information suggests, for example, that ambient visual disturbance within the action area is already high enough to likely preclude species from nesting within 100 m of the project footprint or vegetation near the roadway is sufficiently dense to shield the view from habitat farther from the roadway.

Unoccupied Habitat

If NSO surveys (using the Service’s survey protocol; Service 2012) determine that all suitable NSO nesting/roosting habitat within the action area is not occupied by NSO, suitable habitat may be removed or altered without seasonal restrictions, provided the Service agrees with Caltrans that the habitat removal or alteration represents an “insignificant” action; based on the amount of habitat removed or altered and whether the remaining habitat is still considered suitable for NSO nesting/roosting or foraging. For projects that result only in potential auditory and/or visual disturbance to NSO, a one-year, 6-visit, disturbance-only survey may be used (Service 2012) to determine NSO occupancy within the action area.

Critical Habitat

Caltrans must ensure that there are no “adverse effects” to designated NSO critical habitat within the action area. Because the Service has no specific quantitative thresholds, above which there would likely be an adverse effect to critical habitat, Caltrans must contact the Service to determine whether the proposed habitat removal or alteration would constitute an adverse effect to designated critical habitat. The Service considers removal or alteration of designated critical habitat that negatively affects the primary constituent elements or the physical and biological features (for more recent critical habitat rules) of the habitat as an adverse effect.

Marbled Murrelet

Section 7 consultation for potential impacts to the marbled murrelet (murrelet) is only required if the project’s action area falls within the “coastal zone”; as defined by the Arcata Fish and Wildlife Office and delineated via a GIS shapefile (file name: “MAMU_Zone_1_Line.shp), and the action contains suitable nesting habitat or critical habitat. No section 7 consultation is required for the murrelet within terrestrial habitat outside the “coastal zone.”

Occupied Habitat

If murrelet surveys in suitable nesting habitat (using the Service’s forest survey protocol; Evans Mack et al. 2003) determine that the action area is occupied **or** Caltrans presumes murrelet occupancy without conducting surveys, Caltrans will adhere to the following conservation measures:

- a. No suitable murrelet nesting habitat or potentially suitable murrelet nest trees will be removed or altered during the nesting season (i.e., from 24 March through 15 September). Removal or alteration of known nest trees (at any time of year) is not covered by this consultation.
- b. Potential suitable nesting habitat may be removed or altered outside the nesting season (i.e., from 16 September through the following 23 March), provided the Service and Caltrans agree that the habitat removal or alteration represents an “insignificant” action; based on the amount of habitat removed or altered and whether the remaining habitat is still considered suitable for nesting murrelets.
- c. No proposed activity generating sound levels 20 or more decibels above ambient sound levels **or** with maximum sound levels (ambient sound levels plus activity-generated sound levels) above 90 decibels (excluding vehicle back-up alarms) may occur within suitable murrelet nesting habitat during the majority of the murrelet nesting season (i.e., from 24 March through 5 August) (Service 2020). These sound level restrictions will be lifted after 15 September; after which the Service considers above-ambient sound levels as having “no effect” on nesting murrelets or dependent young.
- d. Between 6 August (date when most murrelets have fledged in coastal northern California) and 15 September (end of murrelet nesting season) of any year, project activities, with adjacent suitable nesting habitat, that will generate sound levels ≥ 10 decibels (dB) above ambient sound levels will observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset. However, prep work that does not generate sound levels ≥ 10 dB above ambient sound levels, including street sweeping and manual removal of pavement markers, can occur during all hours.

- e. No human activities (including use of drones) will occur within visual line-of-sight of 328 ft. (100 m) or less from a known nest site (Service 2020), or from unsurveyed suitable nesting habitat containing potential murrelet nest trees within 100 m of proposed activities. These visual disturbance restrictions will be lifted after 15 September; after which the Service considers visual disturbance as having a “no effect” on nesting adults or dependent young. The 100-m visual disturbance distance may be reduced or eliminated through technical assistance with the Service if site-specific information suggests that ambient visual disturbance within the action area is already high enough to likely preclude species from nesting within 100 m of the project footprint, or vegetation near the roadway is sufficiently dense to shield the view from habitat farther from the roadway.

Unoccupied Habitat

If protocol surveys (i.e., using Mack et al. 2003) determine that all suitable murrelet nesting habitat within the action area is considered unoccupied, suitable nesting habitat may be removed or altered without seasonal restrictions, provided the Service agrees that the habitat removal or alteration represents an “insignificant” action; based on whether the remaining habitat is still considered suitable for nesting murrelets.

Critical Habitat

Caltrans must ensure that there are no “adverse effects” to designated marbled murrelet critical habitat within the action area. Because the Service has no specific quantitative thresholds, above which there would likely be an adverse effect to critical habitat, Caltrans must contact the Service to determine whether the proposed habitat removal or alteration would constitute an adverse effect to designated critical habitat. The Service considers removal or alteration of designated critical habitat that negatively affects the primary constituent elements or the physical and biological features (for more recent critical habitat rules) of the habitat as an adverse effect.

Yellow-billed Cuckoo

Occupied Habitat

If cuckoo occupancy surveys within suitable nesting habitat (using the Service-approved nesting habitat definition and survey protocol; defined above and in Halterman et al. 2016) determine that the action area is occupied or Caltrans presumes cuckoo occupancy without conducting surveys, Caltrans will adhere to the following conservation measures:

- a. No suitable cuckoo nesting habitat will be removed or altered during the nesting season (i.e., from 15 June through 15 August). Suitable nesting habitat may be removed or altered outside the nesting season (i.e., from 16 August through the following 14 June) provided the remaining habitat retains suitability for nesting after the removal or alteration. Refer to Halterman et al. 2016 or the habitat definition above to determine whether habitat suitability is likely to be retained after project completion. Technical assistance with the Service may be required because habitat suitability definitions in Halterman et al. 2016 are for occupied habitat and it is unknown whether the same definitions apply to the coastal northern California portion of the cuckoo’s range where cuckoo nesting has been extremely rare or nonexistent for many decades.
- b. No suitable cuckoo nesting habitat will be exposed to above ambient sound levels or visual disturbance during the nesting season (i.e., from 15 June through 15 August). The Service currently does not have cuckoo-specific auditory and visual disturbance guidelines. However, nesting cuckoos are very sensitive to any human activity occurring near occupied nests, suggesting they may be negatively impacted by any sound level above ambient and any anthropogenic visual disturbance.
- c. Habitat that does not meet the definition of suitable nesting habitat, but which may be suitable for foraging (defined above and by Halterman et al. 2016) by migrating cuckoos may be removed or altered provided the affected area is revegetated immediately after ground-disturbing activities

are completed. However, if the foraging habitat is within 328 ft. (100 m) of the nearest patch of nesting habitat, the seasonal restrictions mentioned above will be applied to the foraging habitat.

Unoccupied Habitat

If two consecutive years of protocol surveys determine that all suitable cuckoo nesting habitat within the action area is unoccupied, in the year following the second year of surveys, suitable nesting and foraging habitat may be removed, altered, or exposed to above ambient sound levels or visual disturbance without seasonal restrictions, provided the habitat is restored to natural conditions as soon as is practicable after work has been completed.

Critical Habitat

Caltrans must ensure that there are no “adverse effects” to designated cuckoo critical habitat within the action area. Because the Service has no specific quantitative thresholds, above which there would likely be an adverse effect to critical habitat, Caltrans must contact the Service to determine whether the proposed habitat removal or alteration would constitute an adverse effect to designated critical habitat. The only designated cuckoo critical habitat in northern California is located along the Sacramento River between Red Bluff, California and Colusa, California, which is outside the official covered area for this consultation. However, Caltrans District 2 projects may occur within designated cuckoo critical habitat in those areas and thus may be covered by this consultation. The Service considers removal or alteration of designated critical habitat that negatively affects the primary constituent elements or the physical and biological features (for more recent critical habitat rules) of the habitat as an adverse effect.

California Red-legged Frog

The California red-legged frog (CRLF) occurs in only the extreme southern portion of the covered area, within the southern half of Mendocino County. The conservation measures below apply to project action areas that contain suitable CRLF aquatic or terrestrial habitat.

- a. Prior to the start of construction activities, a Service-approved biologist (biologist) will conduct worker environmental awareness training for all construction workers that may work within suitable CRLF habitat. Awareness training will include a brief review of the biology of the CRLF and a description of the conservation measures below, which must be followed by all construction personnel. The biologist will appoint a biological monitor (monitor; e.g., the crew foreman) who will be responsible for ensuring that all crewmembers comply with the measures. The biologist will notify the Resident Engineer who will address any work stoppage, and the Service will be contacted if a CRLF at any life stage (i.e., eggs, larvae (“tadpoles”), sub-adults (approximately 7 months to 3 years old), and sexually mature adults (3–4 years old) is encountered within the action area during project activities.
- b. Within 24 hours prior to the onset of ground-disturbing activities, the biologist will survey all suitable aquatic and terrestrial habitat within the action area of the project for all life stages of the CRLF. Surveys must be conducted within 24 hours of ground-disturbing activities to lower the probability of one or more CRLFs moving into the action area after a survey has already been conducted.
- c. If any life stage of the CRLF is found during pre-work surveys, construction activities will cease in the action area until the biologist can safely capture, handle, and relocate the CRLF(s) to nearby suitable habitat well outside the action area; or to suitable habitat within the action area that will not be physically impacted by construction activities. The biologist will subsequently notify the Service of the number and life stage(s) of CRLFs captured, handled, and moved to nearby suitable habitat. Alternatively, CRLF encountered immediately prior to construction activities can be gently guided (i.e., by slowly walking toward the CRLF so it moves out of the area on its own) from the areas of impact by the biologist. Construction will not begin until the CRLF “self-relocates” to a safe location well

outside the action area or to suitable habitat within the action area that will not be physically impacted by construction activities.

- d. To avoid harm to CRLFs dispersing within upland habitat, project vehicles will adhere to a 15 miles per hour (mph) speed limit for a period of 24 hours after a “major” rain event (>0.25 in.) when within 500 feet of known breeding sites.
- e. All food-related trash will be disposed of in closed containers that are to be removed from the action area at least twice per week during the construction period. Food may attract CRLF predators such as raccoons to the action area. Food may attract CRLF predators such as raccoons to the action area.
- f. CRLF may occupy small mammal burrows within upland habitat. To the extent practicable, small mammal burrows will be avoided. Prior to the start of work, burrows will be flagged for avoidance by the biologist. Burrow openings will be monitored within active work areas and if necessary, burrow openings will be cleared of soil or other blockages.
- g. Water pumps will be screened with wire mesh screens no larger than 0.2 in. to prevent CRLF tadpoles, sub-adults, and adults from entering the pump system. Although pre-activity surveys may have detected no CRLFs, this measure is to ensure that CRLFs that were missed during the survey are not harmed or killed by water pumps.

Critical Habitat

Caltrans must ensure that there are no “adverse effects” to designated CRLF critical habitat within the action area. Because the Service has no specific quantitative thresholds, above which there would likely be an adverse effect to critical habitat, Caltrans must contact the Service to determine whether the proposed habitat removal or alteration would constitute an adverse effect to designated critical habitat. The Service considers removal or alteration of designated critical habitat that negatively affects the primary constituent elements or the physical and biological features (for more recent critical habitat rules) of the habitat as an adverse effect.

Point Arena Mountain Beaver

- a. Prior to implementing proposed vegetation-altering or ground-disturbing activities within the current range of the subspecies, as defined by the Service, habitat assessments and presence/absence surveys for Point Arena mountain beaver (PAMB) must be conducted by a Service-approved biologist using the Service-approved protocol (Service 2017). Survey and habitat assessment results are valid for 2 years if conducted within 200 ft. (61 m) of the impact area. Therefore, if proposed activities do not begin within 2 years of surveys, additional surveys will need to be conducted prior to conducting the work.
- b. No vegetation removal or ground disturbance will occur within occupied habitat or within unsurveyed suitable habitat. However, roadside mowing along State Route 1, in occupied habitat or unsurveyed suitable habitat using motorized equipment is allowed from 1 June through 30 November (i.e., during the majority of the non-breeding season), provided a maximum 4-foot horizontal strip of vegetation will be mowed, to a minimum height of 2 ft. (0.6 m).
- c. Vegetation removal or ground disturbance may occur farther than 100 ft. from occupied habitat or unsurveyed suitable habitat during the PAMB breeding season (i.e., from 1 December through the following 30 June) and may occur farther than 50 ft. from occupied habitat or unsurveyed suitable habitat during the PAMB non-breeding season (i.e., from 1 July through 30 November).
- d. No vibratory drilling, pile driving, blasting, or hoe-ramming will be used within 200 ft. (61 m) of occupied or unsurveyed suitable habitat from 1 December through 30 June (i.e., during the breeding season), and within 100 ft. (30 m) of occupied or unsurveyed suitable habitat from 1 July through 30 November (i.e., during the non-breeding season).

- e. Night lights should be at least 100 ft. (30 m) from occupied or unsurveyed suitable habitat at any time of the year. In addition, lighting should be temporary and directed specifically on the portion of the work area actively under construction. Drone beacon lights required by the Federal Aviation Administration are exempted from this measure. Nighttime drone use may occur less than 100 ft. from occupied or unsurveyed suitable habitat provided they are not equipped with downward facing lights. The drone flight crew and observers must avoid walking through occupied PAMB habitat while conducting drone investigations.
- f. Heavy equipment must remain on the road prism when adjacent to occupied or unsurveyed suitable habitat.
- g. Staging areas will be placed in unsuitable habitat areas only or on the road prism to avoid habitat disturbance. No staging areas are allowed within occupied or unoccupied suitable habitat.