



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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IN REPLY REFER TO:
08EVEN00-2013-F-0377

December 6, 2013

Aaron O. Allen, Chief
North Coast Branch, Regulatory Division
U.S. Army Corps of Engineers
2151 Alessandro Drive, Suite 110
Ventura, California 93001

Subject: Biological Opinion for the Tajiguas Creek Fish Passage Improvement Project,
Santa Barbara County, California (8-8-13-F-45)

Dear Dr. Allen:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the U.S. Army Corps of Engineers' (Corps) proposal to authorize the California Department of Transportation (Caltrans), pursuant to section 404 of the Clean Water Act, to implement the Tajiguas Creek Fish Passage Improvement Project (project). This biological opinion analyzes the project's effects on the threatened California red-legged frog (*Rana draytonii*), and has been prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act)(16 U.S.C. 1531 et seq.). Your request for formal consultation was dated August 1, 2013, and received in this office on August 2, 2013.

We prepared this biological opinion using information you provided, including: your letter requesting initiation of formal consultation; the Natural Environmental Study (California Department of Transportation [Caltrans] 2012); the Nationwide Permit Pre-construction Notification Form submitted to the Corps; and electronic communications between our staff. We also used information from our files. A complete record of this consultation can be made available at the Ventura Fish and Wildlife Office.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action consists of installing eight concrete baffles in the existing Tajiguas Creek concrete arch culvert beneath U.S. Highway 101 in Santa Barbara County. Tajiguas Creek is a perennial drainage that flows into the Pacific Ocean and develops a small lagoon during drier times of the year when a sandbar develops between the creek and the ocean. The purpose of the

project is to flood the culvert floor with the use of baffles to facilitate passage of anadromous federally endangered steelhead (*Oncorhynchus mykiss*) through the culvert. The California Department of Fish and Wildlife (CDFW) requested that Caltrans construct the project to augment watershed restoration conducted by CDFW and the upstream landowner. Construction access would be along an existing paved road to the flat plain upstream from the culvert and along a route cleared across previously graded fields adjacent to the creek. A temporary stream crossing with a culvert would be constructed across Tajiguas Creek for access. The crossing would be 12-feet wide, would have a 22-foot long 18-inch diameter temporary culvert, and require 30 cubic yards of fill taken from the adjacent fields. Caltrans would install silt fence upstream and downstream from the crossing. The cleared dirt road would be approximately 1,000 feet long and in an area that has been used for agriculture and would require a minimum amount of grading (approximately 12,000 square-feet; 0.275 acre). Caltrans would also excavate a short ramp down to the culvert entrance. Caltrans would clear a 5,000 square-foot (0.115 acre) staging area near the culvert entrance on previously disturbed ground beyond the bank of the creek. Following construction, Caltrans would remove the fill material from the creek crossing and ramp, and spread it on the adjacent fields. Caltrans estimates that the total project impacts to aquatic habitat would be 0.018 acres of permanent impact associated with the proposed baffles and 0.015 acres of temporary impacts associated with construction activities, along 400 feet of Tajiguas Creek.

Caltrans would schedule construction to coincide with minimum stream flow. If any ground or surface water flows towards the culvert entrance, Caltrans would set a submersible pump in a 6-foot deep plastic pipe lined well to divert the flow either downstream or upland to be infiltrated. Downstream from the work area, Caltrans would construct two temporary sandbag dams to hold back lagoon water and would pump water from between the two dams as necessary. Once the furthest downstream baffle has been constructed, Caltrans may remove one of the sandbag dams as determined by conditions; the other would remain in place during construction to contain accidental spills. Caltrans anticipates construction to take 40 days or less.

The Corps and Caltrans propose to implement the following avoidance and minimization measures intended to reduce impacts to the California red-legged frog and its habitat:

1. At least 15 days prior to the onset of activities, the Corps will submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities will begin until proponents have received written approval from the Service that the biologist(s) is qualified to conduct the work.
2. A qualified biologist will survey the project site for California red-legged frogs prior to commencement of work. The biologist would capture and relocate any individuals discovered. Suitable upstream relocation pools would be identified prior to the commencement of work.
3. Before any construction activities begin, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a

description of the California red-legged frog and its habitat, the importance of the California red-legged frog and its habitat, the general measures that are being implemented to conserve the California red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

4. A Service-approved biologist will be present at the work site until such time as all removal of California red-legged frogs, instruction of workers, and habitat disturbance have been completed.
5. During project activities, all trash that may attract predators will be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
6. All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 60 feet from any riparian habitat or water body. Caltrans will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the Corps will ensure that Caltrans has prepared a plan to allow a 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 take should a spill occur.
7. A Service-approved biologist will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas will be removed.
8. To control erosion during and after project implementation, Caltrans will implement best management practices, as identified by the appropriate Regional Water Quality Control Board.
9. Intakes of any pump used during dewatering activities will be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
10. A Service-approved biologist will permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs (*Lithobates catesbeiana*), crayfish, and centrarchid fishes, to the maximum extent possible. The permittee will have the responsibility to ensure that their activities are in compliance with the CDFW Code.

ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

Jeopardy Determination

The jeopardy analysis in this biological opinion relies on four components: (1) the *Status of the Species*, which evaluates the range-wide condition of the California red-legged frog, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the California red-legged frog in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the California red-legged frog; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the California red-legged frog; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the California red-legged frog.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the current status of the California red-legged frog, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the California red-legged frog in the wild by reducing the reproduction, numbers, or distribution of that species.

Adverse Modification Determination

This biological opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied on the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which evaluates the range-wide condition of designated critical habitat for the California red-legged frog in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the critical habitat overall; (2) the *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated and interdependent activities on the PCEs and how that will influence the recovery role of the affected critical habitat units; and (4) *Cumulative Effects*, which evaluates the effects of future non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purpose of the adverse modification determination, the effects of the proposed Federal action on the critical habitat of the California red-legged frog are evaluated in the context of the range-wide condition of the critical habitat, taking into account any cumulative effects, to determine if

the critical habitat range-wide would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the California red-legged frog.

STATUS OF THE SPECIES

California Red-legged Frog

The California red-legged frog was federally listed as threatened on May 23, 1996 (Service 1996). The Service completed a recovery plan for the species in 2002 (Service 2002). A 5-year review for the California red-legged frog has not been completed. The historical range of the California red-legged frog extended coastally from southern Mendocino County and inland from the vicinity of Redding, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985, Storer 1925). The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this subspecies was found throughout the Central Valley and Sierra Nevada foothills. Four additional occurrences have been recorded in the Sierra Nevada foothills since listing, bringing the total to five extant populations in that area, compared to approximately 26 historical records (Service 2006). Currently, California red-legged frogs are known from three disjunct regions in 26 California counties and one region in Baja California, Mexico (Grismer 2002; Fidenci 2004; and R. Smith and D. Krofta, in litt. 2005).

The diet of California red-legged frogs is highly variable. Hayes and Tennant (1985) found invertebrates to be the most common food item of adults. Vertebrates, such as Pacific chorus frogs (*Pseudacris regilla*) and California mice (*Peromyscus californicus*), represented over half of the prey mass eaten by larger frogs (Hayes and Tennant 1985). Hayes and Tennant (1985) found juveniles to be active diurnally and nocturnally, whereas adults were largely nocturnal.

California red-legged frogs breed from November through March; earlier breeding has been recorded in southern localities (Storer 1925). Males appear at breeding sites from 2 to 4 weeks before females (Storer 1925). Female California red-legged frogs deposit egg masses on emergent vegetation so that the masses float on the surface of the water (Hayes and Miyamoto 1984). Egg masses contain about 2,000 to 5,000 moderately-sized, dark reddish brown eggs (Storer 1925, Jennings and Hayes 1985). Eggs hatch in 6 to 14 days (Storer 1925). Larvae undergo metamorphosis for 3.5 to 7 months after hatching (Storer 1925, Wright and Wright 1949). Sexual maturity can be attained at 2 years of age by males and 3 years of age by females (Jennings and Hayes 1985); adults may live 8 to 10 years (Jennings et al. 1992) although the average life span is considered to be much lower. The California red-legged frog is a relatively large aquatic frog ranging from 1.5 to 5 inches from the tip of the snout to the vent (Stebbins 2003).

The California red-legged frog uses a variety of habitat types, including various aquatic systems, riparian, and upland habitats. Tadpoles, juveniles, and adults have been collected from streams, creeks, ponds, marshes, plunge pools and backwaters of streams, dune ponds, lagoons, and estuaries. California red-legged frogs frequently breed in artificial impoundments such as stock

ponds, if conditions are appropriate. Although California red-legged frogs successfully breed in streams and riparian systems, high seasonal flows and cold temperatures in streams often make these sites risky environments for eggs and tadpoles. The importance of riparian vegetation for this species is not well understood. When riparian vegetation is present, California red-legged frogs spend considerable time resting and feeding in it; the moisture and camouflage provided by the riparian plant community provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding.

Juvenile and adult California red-legged frogs may disperse long distances from breeding sites throughout the year. They can be encountered living within streams at distances exceeding 1.8 miles from the nearest breeding site, and have been found up to 400 feet from water in adjacent dense riparian vegetation (Bulger et al. 2003). During periods of wet weather, starting with the first rains of fall, some individuals may make overland excursions through upland habitats. Most of these overland movements occur at night. Bulger et al. (2003) found marked California red-legged frogs in Santa Cruz County making overland movements of up to 2 miles over the course of a wet season. These individual frogs were observed to make long-distance movements that are straight-line, point to point migrations over variable upland terrain rather than using riparian corridors for movement between habitats. For the California red-legged frog, suitable habitat is considered to include all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture (Service 1996).

Habitat loss and degradation, combined with over-exploitation and introduction of exotic predators, were important factors in the decline of the California red-legged frog in the early to mid-1900s. Continuing threats to the California red-legged frog include direct habitat loss due to stream alteration and loss of aquatic habitat, indirect effects of expanding urbanization, competition or predation from non-native species including the bullfrog, catfish (*Ictalurus* spp.), bass (*Micropterus* spp.), mosquito fish (*Gambusia affinis*), red swamp crayfish (*Procambarus clarkia*), and signal crayfish (*Pacifastacus leniusculus*).

An additional threat affecting amphibians worldwide is the chytrid fungus *Batrachochytrium dendrobatidis*. *Batrachochytrium dendrobatidis* causes chytridiomycosis, a skin disease that has been found to disrupt osmoregulatory function in the skin of amphibians, resulting in an imbalance of electrolytes and death (Voyles et al. 2009). Chytridiomycosis in amphibians may be marked by deformed mouthparts in tadpoles, wherein most infected tadpoles will die at metamorphosis (Service 2002). Infected boreal toads (*Anaxyrus boreas boreas*) showed few clinical signs of the disease but many appeared weak or lethargic, exhibited excessive shedding of skin and were reluctant to flee at the approach of humans (U.S. Geological Service 2000, as cited in Service 2002). Chytrid fungi are widespread in the environment where they act as decomposers of keratin, chitin, cellulose, and other plant material, and are known parasites of fungi, algae, higher plants, protozoa, invertebrates, and most recently in vertebrates. Chytrid fungi reproduce asexually by means of minute, fragile, motile spores, and are probably spread directly from amphibian to amphibian in water. These fungi most likely move from one water source to another on migrating amphibians, waterbirds, or flying insects (Service 2002).

Since its discovery in 1998, chytrid fungus has likely been responsible for die-offs of a number of amphibian species, including remaining populations of the endangered boreal toad in the southern Rocky Mountains, and Chiricahua leopard frogs (*Rana chiricahuensis*) in Arizona (Colorado Herpetological Society 2000, as cited in Service 2002). Occurrences of infection have been observed in two amphibian species in the Sierra Nevada, the mountain yellow-legged frog (*Rana muscosa*) and the Yosemite toad (*Bufo canorus*). An infected California red-legged frog tadpole was collected in Calabasas Pond on the Ellicott Slough National Wildlife Refuge in Santa Cruz County (Service 2002).

The chytrid fungus is now recognized for its ability to spread quickly through amphibian populations and infect numerous species, causing high rates of mortality, and persisting at low host densities (Voyles et al. 2009). These recent findings validate the importance of taking precautions to prevent the spread of chytrid fungus or any disease agent into and/or between amphibian populations. It is considered a threat to California red-legged frog populations.

Recovery Plan for the California Red-Legged Frog

According to the recovery plan for the California red-legged frog, the strategy for the species' recovery involves: (1) protecting existing populations by reducing threats; (2) restoring and creating habitat that will be protected and managed in perpetuity; (3) surveying and monitoring populations and conducting research on the biology and threats to the species; and (4) reestablishing populations of the species within its historical range (Service 2002).

The recovery plan for the California red-legged frog identifies eight recovery units. These recovery units are based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The recovery status of the animal is considered within the scale of Recovery Units as opposed to the overall range. Because of the varied status of this species and differing levels of threats throughout its range, recovery strategies differ per recovery unit to best meet the goal of delisting the species. For example, in areas where California red-legged frog populations appear to be stable, recovery strategies are intended to protect existing population numbers, whereas in areas where frogs have been extirpated or are declining, strategies are to stabilize, increase, augment, or reestablish populations.

The recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy allows for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of the California red-legged frog.

Critical Habitat for the California Red-legged Frog

Critical habitat for the California red-legged frog was first designated on March 13, 2001 (Service 2001). On March 17, 2010, the Service published a revised critical habitat designation for California red-legged frog (Service 2010). The final rule for designation of critical habitat describes 48 separate units, encompassing approximately 1,636,609 acres, in 27 counties in California. In addition, the Service finalized a special rule pursuant to section 4(d) of the Act, associated with final listing of the California red-legged frog as threatened, for existing routine ranching activities (Service 2006).

The PCEs of critical habitat of the California red-legged frog are those physical and biological features that are essential to the conservation of this species and that may require special management considerations and protections. Critical habitat of the California red-legged frog includes essential aquatic habitat, associated uplands, and essential dispersal habitat connecting essential aquatic habitat. The final rule defines aquatic habitat for the California red-legged frog as fresh water bodies, including natural and artificial ponds, backwaters with streams, marshes, lagoons, and dune ponds, except for deep lakes and reservoirs that are greater than 50 acres in size and inhabited by non-native predators. A permanent water source, which could include seeps and springs, is required. Aquatic habitat used for breeding must have a minimum deep-water depth of 20 inches and must maintain water during the entire tadpole-rearing season, which is typically March through July. Uplands and riparian areas associated with aquatic habitats provide food and shelter sites for California red-legged frogs and assist in maintaining the integrity of aquatic sites by supporting their functions and by protecting them from disturbance. Dispersal habitat connects breeding habitats and upland areas; it can consist of wetlands or uplands.

The final rule notes that, to be a primary constituent element, the aquatic components must consist of two or more breeding sites located within 1.25 miles of each other; at least one of the sites must also be a permanent water source. Additionally, the aquatic components can consist of two or more breeding sites that do not support permanent water and a permanent water source that does not support breeding located within 1.25 miles of each other. To be a PCE, the upland habitat component must be within 300 feet of the edge of the ordinary high watermark of the aquatic habitat. The upland habitat component of critical habitat can be no further than the watershed boundary of the aquatic habitat.

Dispersal habitat must be free of barriers and connect two or more patches of essential breeding habitat within 1.25 miles of each other to be considered a PCE of critical habitat. The dispersal habitat must be at least 300 feet wide. Barriers to dispersal include moderate to high density urban or industrial development, reservoirs over 50 acres in size, and roads that do not have culverts or bridges and are used by an average of 30 cars per hour between 10:00 p.m. and 4:00 a.m.. Agricultural lands do not constitute barriers to California red-legged frogs.

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the “action area” as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For the purposes of this biological opinion and based on the information provided by the Corps and Caltrans, we consider the action area to include the entire permit area subject to Section 404 of the Clean Water Act, including the construction and removal of the temporary stream crossing and culvert, the 1,000-foot-long access road, the 5,000 square-foot staging area, the construction and installation of the eight fish baffles, the downstream portions of Tajiguas Creek that receive sediment or other materials as a result of the project, and any areas where California red-legged frogs are relocated during project activities.

Status of the Species and Critical Habitat within the Action Area

Tajiguas Creek is located in the relative middle of the current range of the California red-legged frog, and is within the species’ Santa Maria River – Santa Ynez River core recovery area (which is within the Northern Transverse Ranges and Tehachapi Mountains Recovery Unit). Core recovery areas are locations targeted for development and implementation of management and protection plans for California red-legged frogs. Conservation needs identified for the Santa Maria-Santa Ynez River core area include: protect existing populations; reduce contamination of habitat (e.g., clean contaminated ponds on Vandenberg Air Force Base); control non-native predators; implement management guidelines for recreation; cease stocking dune ponds with non-native, warm water fish; manage flows to decrease impacts of water diversions; implement guidelines for channel maintenance activities; preserve buffers from agriculture (e.g., in lower reaches of Santa Ynez River and San Antonio Creek). Tajiguas Creek is not directly identified in the recovery plan as having a conservation role in the recovery strategy for the species.

The project area is within designated critical habitat unit STB-6, which is comprised of 11,985 acres located along the coast of Santa Barbara County from Arroyo Quemado to Refugio Creek (Service 2010). The unit is mapped from California red-legged frog occurrences recorded at the time of listing and is currently occupied. STB-6 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2) and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). STB-6 provides connectivity between occupied sites along the coast and the Santa Ynez River watershed. STB-6 contains permanent and ephemeral aquatic habitats suitable for breeding, and upland areas for dispersal, shelter, and food. The unit consists of Federal (1,881 acres), State (29 acres), and private (10,075 acres) lands. Threats that may require special management in this unit include predation by nonnative species and poor water management practices which may alter aquatic or upland habitats, and thereby result in the direct or indirect loss of egg masses or adults.

The action area contains aquatic habitat suitable for California red-legged frog breeding and non-breeding activity during years with suitable rainfall and summer refugia, though it does not present optimal conditions (Caltrans 2012). Likewise, the action area contains both upland and dispersal habitat for California red-legged frog. California red-legged frogs have been reported

from Tajiguas Creek as early as 1979 (California Natural Diversity Data Base 2012) and were again observed during project-related surveys in 2012 (Caltrans 2012). According to an assessment of the California red-legged frog population in the approximately 4-mile-long Tajiguas Creek watershed conducted in 2011, at least 440 individual frogs occupy the creek (Semonsen 2011). The chytrid fungus is known to occur in California red-legged frogs inhabiting the Tajiguas Creek watershed.

EFFECTS OF THE ACTION

The project activities could temporarily reduce the amount of suitable habitat available to California red-legged frogs, but are not expected to cause any permanent impacts. We anticipate that California red-legged frogs will be able to maneuver around or over the roughened channel and baffles once they are in place. Therefore, while Caltrans anticipates that the baffles will permanently impact approximately 0.018 acres of aquatic habitat, their placement within the existing cement arch culvert, which does not provide suitable breeding habitat for California red-legged frog, will not result in any reduction in either breeding or non-breeding habitat. Likewise, the temporary disturbance of 0.015 acres of aquatic habitat from construction activities, including the creation and removal of the culvert stream crossing, will not cause a permanent reduction in aquatic habitat available to California red-legged frog. The project-related impacts to California red-legged frog upland habitat due to the construction and removal of the temporary culvert, access road, and staging area will be temporary and the habitat is expected to return to pre-project conditions and functions once the project is completed.

Direct impacts to adults and subadults dispersing through the project site may include injury or mortality from being crushed by earth moving equipment, construction debris, and worker foot traffic. These impacts will be reduced by minimizing the area disturbed and by having a Service-approved biological monitor survey the work site each morning before construction activities begin and relocating any California red-legged frogs out of harm's way.

The capture and handling of California red-legged frogs to move them from the work area may result in injury or mortality. Mortality may occur as a result of improper handling, containment, or transport of individuals or from releasing them into unsuitable habitat. Improper handling, containment, or transport of individuals would be reduced or prevented by use of a Service-approved biologist. Overall, relocation as proposed by Caltrans is intended to reduce the risk of injury or mortality from the direct effects described above. Implementing the relocation protocols has proven to be effective in avoiding direct mortality or injury. However, without attaching radio transmitters or individually marking relocated frogs, their fate will be unknown. Relocated frogs may be subject to increased competition, predation due to exposure, and other problems associated with being placed in unfamiliar territory.

Construction activities, including noise and vibration, may cause California red-legged frogs to temporarily abandon habitat adjacent to work areas. This disturbance may increase the potential for predation and desiccation when California red-legged frogs leave shelter sites.

Trash left during or after project activities could attract predators to the work site, which could, in turn, prey on California red-legged frogs. For example, raccoons are attracted to trash and also prey opportunistically on California red-legged frogs. This potential impact will be reduced or avoided by careful control of waste products at all work sites as proposed by Caltrans.

Accidental spills of hazardous materials or careless fueling or oiling of vehicles or equipment could degrade aquatic or upland habitat to a degree where California red-legged frogs are adversely affected or killed. The potential for this impact to occur will be reduced by Caltrans' proposal to require: all refueling, maintenance, and staging of equipment and vehicles to occur at least 60 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat; the monitor to ensure contamination of habitat does not occur during such operations; that a plan is in place for prompt and effective response to any accidental spills; and all workers to be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Workers may intentionally or unintentionally disturb, injure, or kill California red-legged frogs. The potential for this impact to occur will be reduced by Caltrans' proposal to conduct pre-construction training informing workers of the presence and protected status of this species and the measures that are being implemented to protect it during project activities.

Work in streams or in floodplains could cause siltation downstream. This siltation could alter the quality of habitat to the extent that use by individuals of the species is precluded. Implementing best management practices and reducing the area to be disturbed to the minimum necessary, as proposed by Caltrans, will likely assist in reducing the amount of sediment that is washed downstream as a result of project activities.

The project is intended to provide additional habitat for, and increased populations of, steelhead (*Oncorhynchus mykiss*) in the Tajiguas watershed. The effects of potentially increasing predators on California red-legged frogs cannot be accurately predicted. California red-legged frogs and steelhead are known to coexist and presumably occurred sympatrically in many coastal watersheds prior to the onset of human disturbance. Although we anticipate that some predation of California red-legged frogs by steelhead may occur, this level of predation is not expected to appreciably alter the population structure within the project areas.

We expect that few California red-legged frogs would be killed or injured by project activities because of the measures that Caltrans has proposed to reduce the level of injury or mortality. California red-legged frogs may be captured, injured, or killed during construction, or during efforts to move them from the work zone. Overall, the low number of individual California red-legged frogs we think would be affected means that the proposed action is not likely to substantially reduce the numbers, reproduction, or distribution of the California red-legged frog. Additionally, based on reproductive biology of the species, the loss of these few individuals is not likely to compromise the conservation of the species because this number represents a very small portion of the total breeding individuals assumed to be present in this region.

California Red-legged Frog Critical Habitat

Project activities within Tajiguas Creek would result in short-term impacts to critical habitat unit STB-6 of the California red-legged frog. Temporary and permanent impacts would occur within 0.033 acre of aquatic and 0.39 acre of upland habitat for the species. Impacts to aquatic habitat will be temporary and the pools that will be created by the baffles will likely increase the availability of California red-legged frog refugia. Likewise the impacts to upland habitat for California red-legged frogs will be temporary and will return to pre-project function once the disturbed area is revegetated. The total 0.423-acre impact area represents less than 0.004 percent of the total area within critical habitat unit STB-6. The function and conservation role of aquatic and upland habitat in STB-6 will be temporarily impacted, but ultimately unaffected from the proposed project activities.

In summary, the proposed project would result in temporary adverse impacts to California red-legged frogs within the action area; however, few, if any, California red-legged frogs are likely to be injured or killed because Caltrans will implement a suite of avoidance and minimization measures as part of the project, including capturing and relocating all California red-legged frogs from the project area prior to the onset of the construction activities. Therefore, the proposed action should not impede the recovery of the California red-legged frog with respect to the recovery plan and in general.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. We are not aware of any non-Federal actions that are reasonably certain to occur in the action area.

CONCLUSION

After reviewing the current status of the California red-legged frog, the environmental baseline, the effects of the action, and the cumulative effects, it is the Service's biological opinion that the proposed activities will not jeopardize the continued existence of the species, and is not likely to destroy or adversely modify the designated critical habitat. We have reached these conclusions for the following reasons:

1. Little effect on the number of California red-legged frogs is expected because few individuals are likely to be killed during project implementation and natural breeding is expected to mask any project effects;
2. Project activities would not occur during the California red-legged frog breeding season when more sensitive life stages could be effected and at higher numbers (i.e., tadpoles are likely to be more abundant than adult frogs);

3. Project-related impacts to California red-legged frog aquatic and upland habitat would be temporary and the area affected would be small in comparison with the range of species, and therefore not likely to reduce the species' distribution; and
4. The Corps and Caltrans have agreed to implement measures to reduce the adverse effects of the proposed activities on the California red-legged frog.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this incidental take statement.

All California red-legged frogs found within the action area may be subject to take in the form of capture during relocation efforts and some of the captured individuals may be killed or injured as a result of mishandling, predation, exposure, and competition with resident frogs. Any California red-legged frogs that remain in the project area may be subject to increased predation, be crushed by workers conducting project activities, or otherwise be injured or killed. We cannot determine the precise numbers of California red-legged frogs that may be killed or injured as a result of the proposed activities. Numbers and locations of California red-legged frogs within a population vary from year to year, and incidental take of individuals will be difficult to detect because of their small body size and finding a dead or injured specimen is unlikely. However, because the Corps and Caltrans have proposed to use protective measures that have been effective for the California red-legged frog, we anticipate that few, if any, California red-legged frogs are likely to be killed or injured during this work.

Consequently, we are unable to reasonably anticipate the actual number of California red-legged frogs that would be taken by the proposed project; however, we must provide a number at which formal consultation would have to be reinitiated. The Environmental Baseline and Effects of the Action sections of this biological opinion indicate that adverse effects to California red-legged frog would likely be low given the nature of the proposed activities and protective measures that would be implemented, and we, therefore, anticipate that take of California red-legged frog would also be low. We also recognize that for every California red-legged frog found dead or

injured, other individuals may be killed or injured that are not detected, so when we determine an appropriate take limit we are anticipating that the actual take would be higher and we set the number at a low limit.

Similarly, for estimating the number of California red-legged frogs that would be taken by capture, we cannot predict how many may be encountered for reasons stated earlier. While the benefits of relocation (i.e., minimizing mortality) outweigh the risk of capture, we must provide a limit for take by capture at which consultation would be reinitiated, and therefore use numbers based on projects in similar habitat and similar impacts.

Therefore, if 2 adult, subadult, or juvenile California red-legged frogs are found dead or injured or if 50 are captured and relocated, the Corps must contact our office immediately to reinitiate formal consultation. Project activities that are likely to cause additional take should cease during this review period because the exemption provided under section 7(o)(2) would lapse and any additional take would not be exempt from the section 9 prohibitions.

The measures described below are non-discretionary and must be undertaken by the Corps and Caltrans for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps or Caltrans fails to adhere to the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

REASONABLE AND PRUDENT MEASURE

We believe the following reasonable and prudent measure is necessary and appropriate to minimize take of California red-legged frog during the project activities conducted pursuant to this biological opinion:

1. Well-defined survey and relocation procedures must be implemented by authorized biologists to avoid or minimize the take of California red-legged frogs during project activities.

TERM AND CONDITION

To be exempt from the prohibitions in section 9 of the Act, the Corps must ensure that Caltrans complies with the following term and condition, which implements the reasonable and prudent measure described above. This term and condition is non-discretionary.

1. The following term and condition implements reasonable and prudent measure 1:

To avoid transferring disease or pathogens between aquatic habitats during the course of surveys for and handling of California red-legged frogs, the Service-approved

biologist must follow the Declining Amphibian Population Task Force's Code of Practice. A copy of this Code of Practice is enclosed.

REPORTING REQUIREMENTS

The Corps must provide a written report to the Service within 90 days following completion of the proposed project. The report must disclose the number of California red-legged frog killed or injured, describing the circumstances of the mortalities or injuries if known. The report must also document the number and size of any California red-legged frogs relocated from the action area, the date and time of relocation, and a description of relocation sites. The report must contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys, and any other pertinent information. We encourage you to submit recommendations regarding modification of or additional measures that would improve or maintain protection of listed species, while simplifying compliance with the Act.

DISPOSITION OF DEAD OR INJURED SPECIMENS

Upon locating a dead or injured California red-legged frog, initial notification must be made to the Ventura Fish and Wildlife Office by facsimile at (805) 644-3958 immediately and in writing at the letterhead address within 3 working days. Notification must include the date, time, and location of the carcass; cause of death or injury, if known; and any other pertinent information.

Care must be taken in handling injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological material in the best possible state for later analysis. The finder of injured specimens has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed, unless to remove it from the path of further harm or destruction. Should any listed species survive injury, the Service must be contacted regarding its final disposition.

The remains must be placed with educational or research institutions holding the appropriate State and Federal permits, such as the Santa Barbara Natural History Museum (Contact: Paul Collins, Santa Barbara Natural History Museum, Vertebrate Zoology Department, 2559 Puesta Del Sol, Santa Barbara, California 93460, (805) 682-4711, extension 321).

CONSERVATION RECOMMENDATION

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

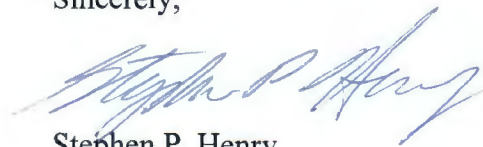
The Corps should continue to work with the Service towards the implementation of recovery actions identified in the California red-legged frog recovery plan (Service 2002).

REINITIATION NOTICE

This concludes formal consultation on the effects of the Tajiguas Creek Fish Passage Improvement Project. Reinitiation of formal consultation is required if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may adversely affect listed species or critical habitat in a manner or to an extent not considered in this biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by this action (50 CFR 402.16). In instances where the amount or extent of incidental take is exceeded, the exemption issued pursuant to section 7(o)(2) will have lapsed and any further take would be a violation of section 4(d) or 9. Consequently, we recommend that any operations causing such take cease pending reinitiation.

If you have any questions regarding this biological opinion, please contact Bill Standley of my staff at (805) 644-1766, extension 315.

Sincerely,



Stephen P. Henry
Acting Field Supervisor

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The Declining Amphibian Populations Task Force Fieldwork Code of Practice

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires, and all other surfaces. Rinse cleaned items with sterilized (e.g., boiled or treated) water before leaving each work site.
2. Boots, nets, traps, and other types of equipment used in the aquatic environment should then be scrubbed with 70 percent ethanol solution and rinsed clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond, wetland, or riparian area.
3. In remote locations, clean all equipment with 70 percent ethanol or a bleach solution, and rinse with sterile water upon return to the lab or "base camp" Elsewhere, when washing-machine facilities are available, remove nets from poles and wash in a protective mesh laundry bag with bleach on the "delicates" cycle.
4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable vinyl¹ gloves and change them between handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean them as directed above and store separately at the end of each field day.
5. When amphibians are collected, ensure that animals from different sites are kept separately and take great care to avoid indirect contact (e.g., via handling, reuse of containers) between them or with other captive animals. Isolation from unsterilized plants or soils which have been taken from other sites is also essential. Always use disinfected and disposable husbandry equipment.
6. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.
7. Used cleaning materials and fluids should be disposed of safely and, if necessary, taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags.

The Fieldwork Code of Practice has been produced by the Declining Amphibian Populations Task Force with valuable assistance from Begona Arano, Andrew Cunningham, Tom Langton, Jamie Reaser, and Stan Sessions.

For further information on this Code, or on the Declining Amphibian Populations Task Force, contact John Wilkinson, Biology Department, The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK. E-mail: DAPTF@open.ac.uk. Fax: +44 (0) 1908-654167

¹ Do not use latex gloves. Latex is toxic to amphibians.