



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
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IN REPLY REFER TO:  
PAS 1190.2809.3197

March 31, 2005

Ruth Bajza Villalobos, Chief  
Planning Division  
U.S. Army Corps of Engineers  
P.O. Box 532711  
Los Angeles, California 90053-2325

Subject: Biological Opinion for the Matilija Dam Ecosystem Restoration Project, Ojai,  
Ventura County, California (CON 1-8-04-F-38)

Dear Ms. Villalobos:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological and conference opinions on the U.S. Army Corps of Engineer's (Corps) proposal to remove the Matilija Dam. At issue are the effects of this action on the federally endangered arroyo toad (*Bufo californicus*), and the threatened California red-legged frog (*Rana aurora draytonii*) and its proposed critical habitat, in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*). Your July 14, 2004, request for the initiation of formal consultation was received on July 15, 2004.

You also made the determination that project activities may affect, but are not likely to adversely affect the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), and the candidate western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). We concur with your determination based on the following:

- 1) Southwestern willow flycatchers were not detected during surveys in accordance with Service protocol during the 2000 breeding season, and habitat for this species is marginal at best within the study area. Additionally, no historical records exist of southwestern willow flycatchers breeding within the study area. The Corps has proposed that surveys according to Service protocol for breeding southwestern willow flycatchers would be conducted immediately prior to project activities within suitable habitat and each year during the breeding season for the duration of the project. If southwestern willow flycatcher nests are found, project activities would be set back a minimum of 500 feet from nest sites or avoided until the young have fledged (Rey Farve, Corps, pers. comm. 2004);
- 2) Approximately 60 acres of suitable habitat for the least Bell's vireo exists within the study area from the Ventura River estuary to Foster Park. Greaves (2004) reported one pair of least Bell's vireo nesting in the vicinity of the Main Street Bridge and Ventura

River in 2001, 2002, 2003, and 2004. The first attempt during the 2003 season to nest in the Main Street Bridge vicinity failed; however, in a second attempt, this pair of least Bell's vireos successfully fledged at least one chick within the same vicinity at the Main Street Bridge (Greaves 2004). A second pair of least Bell's vireos was reported nesting approximately 0.75 mile downstream of Shell Road in June of 2003, and another pair of least Bell's vireos was reported in the Ventura River near Stanley Road in June of 2003. The status (breeding, nesting success, etc.) of these two pairs was not determined (Greaves 2003). Greaves (2004) reported one pair of least Bell's vireo had successfully fledged at least one chick in the vicinity of the Main Street Bridge in May of 2004. Limited suitable habitat and the presence of brown-headed cowbirds may preclude additional occurrences of this species within the study area; however, the Corps has proposed that surveys according to Service protocol for breeding least Bell's vireo would be conducted immediately prior to project activities within suitable habitat and each year during the breeding season for the duration of the project. If least Bell's vireo nests are found, project activities would be set back a minimum of 500 feet from nest sites or avoided until the young have fledged (Rey Farve, Corps, pers. comm. 2004). Native riparian habitat would be minimally disturbed during giant reed (*Arundo donax*) removal activities in the areas where least Bell's vireo have been detected, which is approximately 12 miles downstream of the Matilija Dam. Despite the minimal disturbance to riparian habitat, least Bell vireos would be avoided by the 500 foot set back and seasonal restrictions.

- 3) The yellow-billed cuckoo has never been observed or documented within the study area, despite the presence of suitable nesting and foraging habitat; and
- 4) The Corps proposes to implement measures to avoid affects to listed species as described in the "Description of the Proposed Action" section of this biological opinion.

Additionally, you have made the determination that project activities would have no effect on the federally endangered California condor (*Gymnogyps californianus*), California least tern (*Sterna antillarum browni*), California brown pelican (*Pelecanus occidentalis californicus*), tidewater goby (*Eucyclogobius newberryi*), and the federally threatened western snowy plover (*Charadrius alexandrinus nivosus*). We concur with your determination based on the following:

- 1) No known activity sites for the California condor occur within the study area;
- 2) No construction activities will occur along the coastal portion of the project area, where western snowy plover and California least tern habitat is present, nor will such habitat be affected by the project;
- 3) No known records exist of California least terns breeding at the Ventura River estuary. Although the species forages in the estuary and offshore, those activities would not be affected by the project because turbidity levels are expected to be within normal ranges;

- 4) The California brown pelican breeds only on Anacapa and Santa Barbara Islands and not within the study area. The species may roost or forage at the Ventura River estuary, but the project activities would not affect these behaviors;
- 5) Turbidity levels associated with the project activities are expected to be within the normal range of levels for the Ventura River estuary, therefore not affecting the tidewater goby; and
- 6) Western snowy plovers are not known to breed within the study area.

Critical habitat has been designated for the following species: California condor, least Bell's vireo, western snowy plover, and the tidewater goby. However, critical habitat for these species does not fall within the boundaries of the Matilija Dam ecosystem restoration and will therefore not be adversely affected by the actions of this project.

Lastly, you have determined that the arroyo toad may be adversely affected as a result of high turbidity levels within the immediate downstream vicinity of the dam deconstruction area. The arroyo toad is not known to occur within the study area and there is limited suitable habitat downstream of the Matilija Dam. Consequently, we believe the proposed project activities would not affect the arroyo toad and it will not be discussed further in this document.

We understand you have initiated formal consultation with the National Oceanic Atmospheric Administration Fisheries for the effects of the project on the federally endangered steelhead trout (*Onchorynchus mykiss*), which occurs in the Ventura River. Because the steelhead is not within the Service's jurisdiction, it will not be mentioned further in this document.

The biological and conference opinions are based on information provided in the Final Environmental Impact Statement/Environmental Impact Report for the Matilija Dam Ecosystem Restoration Feasibility Study (Corps 2004), final Fish and Wildlife Coordination Act Report for the Matilija Dam Ecosystem Restoration Feasibility Study (Service 2004), information provided by the Corps, and information in our files. A complete administrative record of this consultation is on file at the Ventura Fish and Wildlife Office.

## CONSULTATION HISTORY

Our involvement with the Matilija Dam Removal Project began in February 2000, when we provided comments in a Planning Aid Memorandum as part of a Fish and Wildlife Coordination Act agreement (Service 2000). That document was prepared with the Bureau of Reclamation to assist with an appraisal study for a proposed project to remove Matilija Dam, and to restore habitat in the vicinity of the dam. Subsequently, the Corps took authority over the proposed project and entered into two additional Fish and Wildlife Coordination Act agreements with the Service (Corps 2001, 2003). We commented on the proposed project, as it went into the feasibility study phase, in a Planning Aid Report sent to the Corps on July 21, 2003, and again in a draft Fish and Wildlife Coordination Act Report, which was sent to the Corps on June 2, 2004.

On October 15, 2004, we sent a final Fish and Wildlife Coordination Act Report to the Corps (Service 2004).

On February 17, 2004, the Corps requested information from us on threatened and endangered species that may occur in the study area. We provided the Corps with a species list dated May 11, 2004, as required under section 7(c) of the Act. The Corps submitted to us a biological assessment in July 2004, along with a draft environmental impact statement/environmental impact report. Concurrent with this submission, the Corps requested formal and informal consultation for the proposed project.

The Corps had originally proposed to conduct surveys according to Service protocol for least Bell's vireo or southwestern willow flycatchers immediately prior to any project activities. If the Corps detected active nests, least Bell's vireo or southwestern willow flycatchers would be flushed prior to construction or nests would be avoided until the young have fledged. On November 2, 2004, Chris Dellith of my staff advised Rey Farve of your staff that flushing a federally listed species, such as the least Bell's vireo or southwestern willow flycatcher is a form of harassment and constitutes take under section 9 of the Act. Furthermore, flushing nesting birds is considered a violation of the Migratory Bird Treaty Act (16 U.S.C. 703-712). Consequently, Mr. Farve stated that the Corps would not implement Mitigation Measure B-1 as described in the Final Environmental Impact Statement/Environmental Impact Report for the Matilija Dam Ecosystem Restoration Feasibility Study (Corps 2004). Instead, the Corps has proposed focused surveys according to Service protocol for breeding least Bell's vireos and southwestern willow flycatchers would be conducted immediately prior to project activities within suitable habitat and each year during the breeding season for the duration of the project. If least Bell's vireo or southwestern willow flycatcher nests are found, project activities would be set back a minimum of 500 feet from nest sites or avoided until the young have fledged (Rey Farve, Corps, pers. comm. 2004).

On April 13, 2004, the Service proposed critical habitat for the California red-legged frog (69 *Federal Register* (FR) 19620). Proposed project activities located within the Matilija Reservoir, delta area, and upstream channel of Matilija Creek fall within proposed critical habitat Unit 27 for the California red-legged frog. In a telephone conversation on November 30, 2004 with Mr. Farve, Chris Dellith recommended that, because the critical habitat could become final during the proposed project activities, the Corps should request a conference opinion regarding the project effects on the proposed critical habitat for California red-legged frog. We received an electronic correspondence (e-mail) of your request for a conference opinion on November 30, 2004.

## BIOLOGICAL AND CONFERENCE OPINIONS

### DESCRIPTION OF THE PROPOSED ACTION

The Corps proposes to restore Matilija Creek and the Ventura River by completely removing Matilija Dam in one phase and removing giant reed from the riparian corridor. The proposed project would mechanically slurry sediment (2.1 million cubic yards) from the Matilija Reservoir

to a designated downstream disposal site and allow for removal of the dam. The remaining trapped sediment would be temporarily stabilized within the upstream channel and original reservoir basin limits.

### **Site Preparation**

Prior to sediment transport and dam demolition, the Corps would remove the existing vegetation from the perimeter of the Matilija Reservoir, the delta area, and the upstream sediment stabilization sites. Vegetation consists primarily of giant reed with some native and other non-native vegetation intermixed. Methods include the use of a flail mower with removal of cut biomass from the site, and the application of glyphosate herbicide.

### **Removal of Matilija Reservoir Sediments**

The Corps would use two 12-inch cutter suction dredges that would operate 24-hours a day seven days a week to slurry the 2.1 million cubic yards of fine sediment over a period of nine months. Fresh water from Lake Casitas, utilizing a specially constructed 8-mile long pipeline, would be used for the slurry media. Slurried materials would be deposited at several areas in the proximity of the Highway 150 Bridge. The areas, comprising 118 acres in the floodplain, are both upstream and downstream of the bridge and are approximately 3 to 6 miles downstream of the Matilija Dam. Earthen containment dikes would be constructed to contain the slurried materials. The dikes would be constructed of sands and gravels excavated from the specific deposition areas. For the upstream slurry deposition site located north of the Highway 150 Bridge, riprap slope protection would be necessary to provide for 5 to 10 year storm events. The three other disposal sites, downstream of the bridge, are located mostly on low floodplain terraces and would be subjected to less frequent flows. Native vegetation would be planted on the side slopes of the containment areas to provide soil stabilization during larger storm events. Once the slurried materials are dewatered, the disposal areas would be re-vegetated using native plants.

The Corps proposes to remove any sensitive wildlife species, including the California red-legged frog, from areas proposed for dredging and relocate them to suitable habitat upstream of the project boundary. The Corps also plans to control bullfrog (*Rana catesbeiana*), red swamp crayfish (*Procambarus clarki*), signal crayfish (*Pacifastacus leniusculus*) and green sunfish (*Lepomis cyanellus*) populations in the Matilija Reservoir area prior to sediment transport downstream.

### **Matilija Reservoir Delta and Upstream Channel Area Sediment Stabilization**

While the slurry operation would be taking place, excavation operations would begin in the Matilija Dam delta and upstream channel areas to construct a channel with an alignment similar to the pre-dam channel. The excavated channel through the reservoir site would be 100 feet in width to allow for a smaller meandering channel to naturally develop in the channel bottom between storm events. The bottom of the excavated channel would be to pre-dam elevation and similar gradient. Sediment excavated from the upstream channel area would be placed in

deposition sites located in the upper half of the Matilija Reservoir basin. All sediment excavated from the delta area would be placed in deposition sites located within the lower half of the reservoir basin. Sediments within the original Matilija Reservoir basin would be subject to natural erosion and transport downstream by stream flows. Selective segments of the channel within the lower half of the reservoir basin would be protected with soil cement revetment.

The soil cement revetment would be constructed utilizing aggregate available onsite. Material behind the revetment would be periodically graded to avoid undermining of the revetment and improve erosion potential. All soil cement revetment would be removed from the site following sufficient evacuation of stored sediment from within the original reservoir limits. Complete removal is expected to occur within 20 years.

Locations for the sediment storage sites were selected to align the channel in a similar way to the 1947 pre-dam conditions, to minimize impacts to more sensitive habitat areas, and to ensure the natural aesthetics of the area were not adversely impacted by the temporary stockpile of sediments. No re-vegetation plans of the storage sites or channel are included in the Final EIR/EIS for the project (Corps 2004). The Corps assumes the area will naturally re-vegetate after several years.

### **Dam Demolition**

The dam demolition process would be conducted in one phase, initiated during the slurry operations. A small cofferdam would be constructed to direct flows away from the dam during demolition. Following dredging of the reservoir area, the remainder of the structure above the original streambed would be removed by controlled blasting. Concrete rubble from the blasting would be processed and transported to an off-site commercial concrete recycling plant. Metal debris would be hauled from the site and salvaged. Non-salvageable items would be hauled to the Toland Landfill, 41 miles away, between Santa Paula and Fillmore.

### **Final Clean-up**

The Corps has estimated that it will take approximately 36 months to complete the slurring of the Matilija Reservoir area sediment, removal of the dam, excavation of the channel, and construction of the soil cement revetment. The transport of the remaining trapped sediment would be variable and dependent upon the hydrology (i.e., more would be removed during higher flows and more frequent storms would speed the process). The Corps assumes that within 20 years of initial earthmoving and dam removal activities, the upstream channel, delta area, and Matilija Reservoir sites would be re-vegetated naturally.

## Mitigation

Downstream flood control protection would include: purchase of the Matilija Hot Springs facility; purchase and removal of structures removal of the Camino Cielo Bridge and replacement at a new location; extension of the Santa Ana Bridge; and construction of new or raising existing levees and floodwalls at Meiners Oaks, Live Oaks, and Casitas Springs. The levee and floodwall at Meiners Oaks and extensions of the existing Live Oaks features would be new features to the river.

Modifications for sedimentation impacts at Robles Diversion Dam would include the installation of a high flow sediment bypass (radial gates) structure to allow for evacuation of increased sediment loads at the facility sediment basin resulting from removal of Matilija Dam. In addition, National Oceanic Atmospheric Administration Fisheries has indicated that this facility should be designed to allow the upstream passage of adult steelhead to widen the migratory window provided by the Robles Diversion Fish Passage Facilities. Modifications to the existing timber overflow weir structure at the facility would also be needed. Modifications at the City of Ventura water supply facilities at Foster Park to handle increased turbidity from suspended fines (silts and clays) would include the placement of two groundwater supply wells.

The project also includes a desilting basin located near Lake Casitas along the diversion channel. The desilting basin would prevent extra fine sediment from entering Lake Casitas.

The Corps proposes to implement the following mitigation measures and conservation agreements (summarized from the more detailed description in the Final Environmental Impact Statement/Environmental Impact Report for the Matilija Dam Ecosystem Restoration Feasibility Study (Corps 2004)):

- 1) Implement best management practices (BMPs) (ER-1). The Corps proposes to prepare and implement a plan that would be followed during construction activities. Erosion-minimizing efforts would include measures such as avoiding excessive disturbance of steep slopes; using drainage control structures to direct surface runoff away from disturbed areas; strictly controlling vehicular traffic; implementing a dust-control program during project activities; restricting access to sensitive areas; using vehicle mats in wet areas; and re-vegetating disturbed areas (i.e., downstream slurry disposal sites, roads, pipeline locations) following construction.
- 2) Observe exposed soil (ER-3). During trenching, grading, or excavation work for the project, the Corps would ensure the contractor monitors exposed soil for visual evidence of contamination. If contaminants are detected, the contractor would comply with all local, State, and Federal requirements for sampling, testing, removal, transport, and disposal of hazardous materials. The Corps would be responsible for formulating and implementing plans to characterize and remediate any contamination encountered during project activities. These would specify procedures for monitoring, identifying, handling, and disposing of hazardous waste in accordance with Federal and State regulations.

- 3) Hazardous substance control (ER-4). The Corps or its construction contractor would prepare a hazardous substance control and emergency response plan that would include preparations for quick and safe cleanup of accidental spills. The plan would prescribe hazardous materials handling procedures to reduce the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan would identify areas where refueling and vehicular-maintenance activities and storage of hazardous materials would be permitted.
- 4) Capture and relocate (B-3). Prior to construction activities, the Corps would design a capture and relocation program for the California red-legged frogs, southwestern pond turtle (*Clemmys marmorata pallida*), two-striped garter snake (*Thamnophis hammondi*), and native fish. This plan would be implemented during the proposed actions.
- 5) Agency coordination (B-4). The Corps would immediately contact the appropriate regulatory agencies (Ventura County Watershed Protection District, California Department of Fish and Game (CDFG), and Service) if Federal or State listed or otherwise sensitive flora and fauna are identified during pre-construction surveys. The Corps would coordinate with the appropriate agencies to develop and institute avoidance, minimization, and mitigation measures prior to proceeding with project activities that could affect these sensitive resources.
- 6) Restricted initial clearing (B-5). The Corps would conduct initial clearing of open water, freshwater marsh, and riparian habitats in the Matilija reservoir, delta, and upstream channel areas between September 15 and March 15 to avoid the breeding bird period. Clearing of riparian vegetation for the levee construction would be between September 15 and March 15 as well.
- 7) Fueling (B-6). The Corps would require the construction contractor to conduct all fueling and maintenance activities outside of streams and wetlands, a minimum of 100 feet from riparian and wetland habitats, and in areas where accidental fuel spills will not flow into waters of the state.
- 8) Construction monitoring (B-7). The Corps would have a qualified biologist present when conducting clearing and grading operations at Matilija Reservoir, slurry disposal sites, levee locations, and during removal of giant reed in riparian habitat. The biologist would move or flush wildlife that is not State or federally listed away from project construction to the extent practicable.
- 9) Downstream monitoring (B-8). Biological resources downstream of the dam would be monitored as described in Appendix K of the Environmental Impact Statement/Environmental Impact Report for the Matilija Dam Ecosystem Restoration Feasibility Study (Corps 2004). Monitoring and adaptive management measures are designed to ensure that the restoration effort achieves the restoration goals. Extensive



- vegetation monitoring and fish and wildlife monitoring are proposed for the first 10 years with future wildlife monitoring every other year, throughout the life of the project.
- 10) Worker training and BMPs (B-9). The Corps would conduct a Worker Environmental Awareness Plan prior to construction and implement related BMPs to reduce downstream impacts from sediment-laden water. The Worker Environmental Awareness Plan would identify any sensitive biological or cultural resources known to occur in the project area, the appropriate BMPs required to reduce water quality impacts, and appropriate trash disposal and maintenance locations.
  - 11) Trash removal (B-10). The Corps would require the contractor to ensure that food and trash are stored in sealed containers and removed from the job on a weekly basis.
  - 12) BMPs for giant reed control (B-11). The Corps would develop and execute a giant reed control program that includes monitoring during post-deconstruction restoration activities. Control efforts would begin prior to the dam removal. The giant reed control plan would be submitted to the CDFG and Service for review and comment prior to implementation. The plan would include measures to prevent permanent or temporary impacts to wetlands and associated sensitive vegetation and wildlife during herbicide treatments of giant reed. The plan would:
    - Ensure that herbicides are not applied aquatically during the wet season (November 1<sup>st</sup> to April 15<sup>th</sup>) to avoid potential impacts to downstream vegetation where feasible, and to avoid impacts to fish and wildlife species;
    - Ensure that only water-safe herbicides with approved surfactants are used. Treatments would use a glyphosate-based herbicide including Rodeo® and/or Aquamaster®;
    - Ensure that herbicides are applied at concentrations that are considered safe for biological resources within and adjacent to the project area;
    - Ensure that herbicides are mixed with water soluble dye of a low toxicity that highlights treated areas;
    - Require that overspray of herbicides onto non-target species be minimized by restricting herbicide spraying to periods when wind velocities do not exceed 6 mph;
    - Provide means to minimize trampling of native vegetation by establishing marked trails prior to project implementation;
    - Require the removal of dead giant reed material to avoid fire hazard potential prior to the beginning of the fire season. Material would be removed when

spring access is permitted and before the ensuing fire season begins (between April 15 and the beginning of the fire season); and

- Require the Corps to have a licensed professional conduct or oversee herbicide applications.
- 13) Predator control plan (B-12). The Corps would develop and implement a predator control plan in consultation with the CDFG and Service. The plan would include specific measures to reduce the number of aquatic predators in Matilija Reservoir and minimize the potential for release of these species downstream during dam removal.
- 14) Restoration plan (B-13). The Corps would develop and implement a habitat restoration program for all areas disturbed by project construction, including giant reed removal. This mitigation measure would include methods to restore habitats on all temporary impact areas, such as preserving and respreading topsoil, specific grading techniques including soil ripping to alleviate compaction, and choosing appropriate plant palettes. Appropriate maintenance and monitoring methods for the re-vegetated sites to ensure habitat restoration success would be included. These methods would be developed and defined during the project design phase.
- 15) Development of an operations and maintenance program (B-16). The Corps would develop and execute an operation and maintenance program limiting the potential of long-term and short-term impacts to sensitive flora and fauna. The maintenance program would be submitted to the CDFG and Service for review and comment prior to implementation. At a minimum the following items would be included in the maintenance program:
- Utilize existing access roads and ramps for all maintenance activities unless by foot or authorized by the appropriate regulatory agencies;
  - Ensure that only herbicides that are safe for use near aquatic sites and permitted by the California Regional Water Quality Control Board are applied within 15-foot of areas that have ponded features to avoid potential impacts to fish and wildlife species;
  - Remove trash and debris cleared from culverts within the streambed to avoid potential direct impacts from debris being dislodged and carried downstream or by creating water quality impacts for aquatic species;
  - Use proper BMPs when maintaining access roads and ramps including regrading and repaving; and
  - Inspect levees, roads, and ramps on a regular basis and repair small problems to limit the possibility of a large failure that would require extensive repair and potential damage to sensitive habitat.

## STATUS OF THE SPECIES

The California red-legged frog was federally listed as threatened on May 23, 1996 (61 FR 25813). A recovery plan has been published (Service 2002). Critical habitat for the subspecies was designated on March 13, 2001 (66 FR 14626); however, this rule was vacated and a revised critical habitat designation was proposed on April 13, 2004. The final revised critical habitat designation is scheduled to be published in November 2005 (69 FR 19620). The project site is within the boundaries of proposed critical habitat Unit 27.

Detailed information on the biology of California red-legged frogs can be found in Storer (1925), Stebbins (2003), and Jennings *et al.* (1992). This species is the largest native frog in the western United States, ranging from 1.5 to 5.1 inches in length. The abdomen and hind legs of adults are largely red; the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers, and dorsolateral folds are prominent on the back. Tadpoles range from 0.6 to 3.1 inches in length and are dark brown and yellow with dark spots.

California red-legged frogs spend most of their lives in and near sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. Deep pools with dense stands of overhanging willows and an intermixed fringe of cattails are considered optimal habitat. Eggs, larvae, transformed juveniles, and adults also have been found in ephemeral creeks and drainages and in ponds that do not have riparian vegetation. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting population numbers and distribution. Some California red-legged frogs have moved long distances over land between water sources during winter rains. Adult California red-legged frogs documented to move more than 2 miles in northern Santa Cruz County “without apparent regard to topography, vegetation type, or riparian corridors” (Bulger have been *in litt.* 2000 in 66 FR 14625). Most of these overland movements occur at night.

California red-legged frogs breed from November through March with earlier breeding records occurring in southern localities. California red-legged frogs are often prolific breeders, typically laying their eggs during or shortly after large rainfall events in late winter and early spring. Embryos hatch 6 to 14 days after fertilization and larvae require 3.5 to 7 months to attain metamorphosis. Tadpoles probably experience the highest mortality rates of all life stages, with less than 1 percent of eggs laid reaching metamorphosis. Sexual maturity normally is reached at 3 to 4 years of age; California red-legged frogs may live 8 to 10 years. Juveniles have been observed to be active diurnally and nocturnally, whereas adults are mainly nocturnal.

The diet of California red-legged frogs is highly variable. Invertebrates are the most common food items, although vertebrates such as Pacific chorus frogs (*Pseudacris regilla*) and California mice (*Peromyscus californicus*) can constitute over half of the prey mass eaten by larger frogs (Hayes and Tennant 1985). Larvae likely eat algae.

The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this species was found throughout the Central Valley and Sierra

Nevada foothills. At present, California red-legged frogs are known to occur in 243 streams or drainages from 22 counties, primarily in central coastal California. The most secure aggregations of California red-legged frogs are found in aquatic sites that support substantial riparian and aquatic vegetation and lack non-native predators. Over-harvesting, habitat loss, non-native species introduction, and urban encroachment are the primary factors that have negatively affected the California red-legged frog throughout its range (Jennings and Hayes 1985, Hayes and Jennings 1988). Ongoing causes of decline include direct habitat loss due to stream alteration and disturbance to wetland areas, indirect effects of expanding urbanization, and competition or predation from non-native species.

The primary constituent elements of critical habitat for 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 proposed 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 ponds, perennial creeks, 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 proposed 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 primary constituent element, 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 primary constituent element 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) define the action area being addressed in a consultation as the area that may be directly or indirectly affected by the proposed action (50 *Code of Federal Regulations* 402.02). This project involves following features: 1) complete removal of the Matilija Dam; 2) slurring 2.1 million cubic yards of fine grained sediment from the reservoir area to a downstream disposal site, 3) stabilizing the remainder of the trapped sediment stored behind the dam but allowing upstream stored sediment in the upper channel and delta area be transported downstream by storm events, 4) improvements downstream of the Matilija Dam in specific areas to mitigate impacts from sediment-induced flooding, 5) sediment bypass structure at the Robles Diversion Dam, 6) removal of approximately 250 acres of giant reed (*Arundo donax*) from the study area, and 7) future operation, maintenance, repair, rehabilitation, and replacement of project components by the Ventura County Watershed Protection District after initial construction is completed by the Corps. Thus, we are considering the action area for this biological opinion to be the Matilija Reservoir and the area 2.5 miles upstream of the reservoir, and the Matilija Creek and Ventura River 100-year flood plain downstream to the Ventura Estuary. This area encompasses approximately 1,940 acres.

The study area is located on the Ventura River and Matilija Creek, near the town of Ojai, in Ventura County. Matilija Dam is located on Matilija Creek, which flows downstream of the dam for approximately 0.6 mile before it joins with the north fork of Matilija Creek and forms the main stem Ventura River. Matilija Creek flows through a steep sided canyon with a narrow floodplain and riparian zone. The Ventura River flows through several constricting areas interspersed with wider floodplain areas (although never wider than 0.5 mile). The creeks support riparian vegetation dominated by cottonwoods (*Populus fremontii*), willows (*Salix* spp.), mulefat (*Baccharis salicifolia*), cattail (*typha* spp.) and other shrubby and herbaceous species, which may provide cover for California red-legged frogs moving through the area. A few areas of California sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*) riparian woodland are present within the riparian areas of the Ventura River and Matilija Creek. The Matilija Dam and Reservoir are surrounded by steep slopes with a chaparral plant community. The reservoir area supports between 20 to 35 acres of riparian habitat and up to 50 acres of open water habitat. The dam is an impediment to the natural flow of Matilija Creek.

The Service conducted six protocol surveys in the project area for the California red-legged frog between April 28, 2000, and July 22, 2000 (Service 2004). One California red-legged frog was observed on April 30 in Matilija Creek about 0.75 mile upstream of the dam. The observed individual was in a well-vegetated, 3.5-foot deep pool on the edge of a willow riparian scrub community. Although many habitats appeared suitable for presence of the California red-legged frog, we only detected one individual. However, surveys by other researchers have found more California red-legged frogs in the vicinity of the study area. On September 30, 1999, students from the University of California at Santa Barbara found a recently metamorphosed California red-legged frog along the banks of Matilija Creek approximately 1.5 miles above Matilija Dam. On July 7, 2000, consultants monitoring a road repair site found a California red-legged frog along the banks of Matilija Creek approximately 3 miles above Matilija Dam (Service 2000). Considering the quality of habitat available for California red-legged frogs, their rarity in the

area may be attributable to the high densities of bullfrogs, red swamp crayfish, and/or largemouth bass in the study area.

California red-legged frogs were observed in 2001 in San Antonio Creek, a tributary to the Ventura River approximately eight miles downstream of the Matilija Dam, within Camp Comfort County Park (CNDDDB 2004). Furthermore, on September 15, 2003, one adult and one juvenile California red-legged frog were observed during surveys performed according to Service protocol within San Antonio Creek approximately 1.5 miles downstream of Camp Comfort (CNDDDB 2004). Suitable habitat for the California red-legged frog links these locations to the study area, with perennially flowing water and suitable vegetative cover.

Not many other streams within Ventura County are known to be occupied by California red-legged frogs. Although numerous historical records exist of California red-legged frogs in Ventura County from various locations outside of the Ventura River Watershed, they are only known to currently occur in East Las Virgenes Creek near the Santa Monica Mountains. California red-legged frogs may also inhabit portions of Piru Creek, but their status there is uncertain. In Los Angeles County, one population of California red-legged frogs is present in San Francisquito Creek. No remaining viable populations are found within the United States south of Los Angeles County. In coastal counties from Santa Barbara County northward, the number of California red-legged frog populations is greater.

The Matilija Dam Reservoir, delta area, and upstream channel area within Matilija Creek is located within unit 27 of the proposed critical habitat for the California red-legged frog. Unit 27 consists of watersheds that comprise portions of the Matilija, Sespe, and Piru Creek drainages in Santa Barbara, Ventura, and Los Angeles Counties. This unit is occupied and provides connectivity across the Transverse Ranges from the Santa Ynez River Unit to the San Francisquito-Amargosa Creek Unit and encompasses approximately 313,716 acres.

For the purposes of this consultation, we consider all aquatic, riparian, and upland habitat within the delta area of the Matilija Reservoir and the upstream channel area to contain the primary constituent elements of proposed critical habitat, as essential aquatic breeding habitat and all other constituent elements currently exist in the project area. According to the proposed rule, any additional aquatic habitat, with the exception of the 50 acre Matilija Reservoir, in the vicinity is considered critical habitat. The Matilija Reservoir and its dam are considered barriers to downstream dispersal.

## EFFECTS OF THE ACTION

### **Site Preparation**

If any California red-legged frogs are located in the areas where vegetation would be removed, they could be crushed, stepped on, or otherwise harmed or killed by heavy machinery, such as the flail mower, or worker foot traffic during removal. However, the effects of this activity on California red-legged frogs will be minimized by relocating individuals out of harm's way prior to and during activities.

Direct, acute effects to the California red-legged frog are unlikely from the use of herbicide as described in the Final Environmental Impact Statement/Environmental Impact Report for the proposed project (Corps 2004). Glyphosate, the active ingredient in Aquamaster<sup>®</sup> and Rodeo<sup>®</sup> is practically non-toxic to slightly toxic to amphibians (M. McKee, Ecotoxicologist, Monsanto Company, *in litt.* 1994). Additionally, in a study involving the effects of glyphosate on amphibians in Oregon, including the northern red-legged frog (*Rana aurora aurora*), Cole *et al.* (1997) did not detect any effects of herbicide spraying on amphibian capture rates.

The availability and persistence of glyphosate after application does not appear to be a cause for concern. The typical half-life of glyphosate is less than 40 days in soil (Monsanto 2004). Microbial decomposition is the primary degrading force. Although glyphosate can be found in the soil weeks to months after application, it is quickly inactivated by rapid adsorption to soil particles. Laboratory studies have shown that glyphosate does not bioaccumulate in aquatic species and it has extremely low volatility (Monsanto 2004).

Although much less is known about the environmental fate of the surfactants used with Aquamaster<sup>®</sup> and Rodeo<sup>®</sup>, Bakke (1999) states that the persistence of R-11<sup>®</sup> in the environment appears to be of short duration. The active ingredient in R-11<sup>®</sup>, nonylphenol polyethoxylate, biodegrades rather quickly in aerobic conditions with a lab-tested halflife of a few to several days.

However, there is some evidence that long-term exposure to glyphosate and/or its surfactant may result in lower hatching success and a higher number of post-hatch deformities in frogs (Service 2000a). Additionally, there is no specific information regarding the toxicity of Aquamaster<sup>®</sup> and Rodeo<sup>®</sup> or associated surfactants to California red-legged frogs. Thus, it is difficult to conclude that there will be no adverse effects from the use of these herbicides within the project area. With this in mind, the Corps has proposed BMPs to reduce the chances for exposure of California red-legged frogs to herbicide during treatment of the non-native vegetation. An accidental spill of Aquamaster<sup>®</sup> or Rodeo<sup>®</sup> in or near water could potentially cause injury or mortality to California red-legged frogs.

California red-legged frogs may be exposed to the herbicides in three primary ways: (1) dermally, by direct absorption through the skin while swimming in herbicide-contaminated waters; (2) breathing, by direct uptake of herbicides through the gills during respiration; and (3) orally, by consuming herbicide-contaminated water or feeding on herbicide-contaminated prey. The use of herbicides can reduce the availability of plants and insects that serve as habitat and food for California red-legged frogs, causing them to range farther in search of food, where they may risk greater exposure to predation.

### **Removal of Matilija Reservoir Sediments**

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. Removal of exotic species from a project site, as proposed by the Corps, is likely to increase the survival rate of relocated California red-legged frogs.

Work in streams or in floodplains could cause unusually high levels of siltation downstream. This siltation could smother eggs of the California red-legged frog and alter the quality of the 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 will likely assist in reducing the amount of sediment that is washed downstream as a result of project activities.

### **Matilija Reservoir Delta and Upstream Channel Area Sediment Stabilization, Dam Demolition, Final Clean-up, and Mitigation**

Direct impacts to adults, sub-adults, tadpoles, and eggs of the California red-legged frog in the delta and upstream channel area of this project evaluated by this biological opinion include injury or mortality from being crushed by earth moving equipment, construction debris, and worker foot traffic. These impacts will be reduced by minimizing and clearly demarcating the boundaries of the project areas and equipment access routes and locating staging areas outside of riparian areas or other water bodies. Scheduling work activities to avoid sensitive areas, such as breeding pools during the breeding season and isolated aquatic refuges during dry periods, would substantially reduce adverse impacts. The effects of these activities on California red-legged frogs will be further minimized by relocating individuals out of harm's way prior to and during activities.

Dam removal 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. The removal of California red-legged frogs from areas proposed for project activities above the dam and relocate them to suitable habitat upstream of the project area would reduce adverse impacts.

California red-legged frogs are known to be more surface active (*e.g.*, foraging, dispersing) at night. If the trench for the soil cement revetment is excavated and left open overnight, California red-legged frogs may fall into the trench and become trapped. Trapped individuals may be more vulnerable to predators (*e.g.*, raccoons (*Procyon lotor*)) or they may exhaust themselves trying to get out. If they remain in the trench until daylight, they may desiccate in the sun, be exposed to daytime predators (*e.g.* great blue herons (*Ardea herodias*)), or be found in harm's way when trench installation activities resume.

If water that is impounded during or after work activities creates favorable habitat for non-native predators, such as bullfrogs, crayfish, and centrarchid fishes, California red-legged frogs may suffer abnormally high rates of predation. Additionally, any time California red-legged frogs are concentrated in a small area at unusually high densities, native predators such as herons (*Butorides virescens*, *Nycticorax nycticorax*), egrets (*Casmerodius albus*, *Egretta thula*), opossums (*Didelphis virginiana*), and raccoons may feed on them opportunistically. Finally, if



these pools dry out as a result of construction activity, California red-legged frogs may die as a result of desiccation or be eaten by predators as they attempt to find other suitable habitat.

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

Chytrid fungus (*Batrachochytrium dendrobatidis*) could be spread if infected California red-legged frogs are relocated and introduced into areas with healthy California red-legged frogs or vice-versa. Chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus only attacks the parts of a frog's skin that have keratin (thickened skin), such as the mouthparts of tadpoles and the tougher parts of adults' skin, such as the toes. The fungus can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks, but not before infected animals may have spread the fungal spores to other ponds and streams. Once a pond has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. During relocation of California red-legged frogs as proposed by the Corps, infected individuals or equipment could introduce Chytrid fungus into areas where it did not previously occur. If this occurs, many California red-legged frogs could be affected.

### **Miscellaneous**

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 injured or killed. The potential for this impact to occur will be reduced by the following requirements: all refueling, maintenance, and staging of equipment and vehicles to occur at least 100 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat; monitoring 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.

Trash left during or after project activities could attract predators to work sites, 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 rubbish at all work sites.

If any pets (*e.g.*, dogs or cats) are brought to the work site and allowed to freely roam, they may prey upon California red-legged frogs. California red-legged frogs may be injured or killed if a pet were to bite, scratch, dig up, or otherwise disturb this species.

### **Proposed Critical Habitat**

Aquatic elements of critical habitat within the project site may be disturbed as a result of construction activities. Aquatic breeding habitats would be subject to adverse effects during the vegetation removal, dam demolition, channel excavation, and sediment stabilization periods. Aquatic and wetland habitats that provide water and moisture for adult and juvenile California red-legged frogs during the dry season would be disturbed during creation of the soil cement revetment and the upstream sediment deposition and stabilization. The Service-approved biologist would be on-site to ensure that routes and boundaries are clearly demarcated and that sensitive aquatic, riparian, and wetland areas are avoided the maximum extent practicable.

Adverse effects to upland habitats may result from the removal and disturbance of riparian and wetland vegetation during creation of the soil cement revetment and sediment deposit sites. Loss of vegetation in upland areas may provide less opportunity for juvenile and adult California red-legged frogs to shelter and forage for food. The impacts to upland habitat containing riparian vegetation are expected to be temporary. While foraging and sheltering habitats would be temporarily disturbed, the construction activities should not substantially alter the ability of riparian and upland sites to provide food and sheltering sites or to assist in maintaining the integrity of the aquatic sites within the creek or critical habitat unit.

The effects of the construction activities will not appreciably reduce the ability of proposed critical habitat Unit 27 to support the survival and recovery of the California red-legged frog. Although 53 acres of aquatic and upland habitat for the California red-legged frog that exists within the project area may be temporarily disturbed, this constitutes a small portion of the available habitat within Matilija Creek. The effects of the construction activities will not permanently remove aquatic or upland habitat, nor will it interfere with future breeding activity. Opportunities for California red-legged frogs to forage, shelter, and breed in Matilija Creek will return after the demolition and construction activities.

The removal of the Matilija Dam and restoration of Matilija Creek will provide a net benefit to California red-legged frogs. The ecological function of Matilija Creek and Ventura River will restore a more natural hydrologic regime within the stream bed by allowing uninhibited stream flow within stream banks, potentially creating locations for additional riparian and emergent vegetation to grow. These changes to the drainage could provide additional habitat in which California red-legged frogs can forage, shelter, and breed.

### **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 for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the Matilija Dam removal project, as proposed, is not likely to jeopardize the continued existence of this species and is not likely to destroy or adversely modify its proposed critical habitat:

1. The number of individuals that would be affected by the proposed action would be relatively small;
2. A small proportion of the range of the California red-legged frog would be affected by the proposed action;
3. Most of the project effects would be temporary;
4. The Corps has proposed measures to attempt to reduce the adverse effects of the project on the California red-legged frog;
5. The overall quality of California red-legged frog breeding, foraging, and dispersal habitat would be improved as a result of habitat enhancement associated with ecosystem restoration and dam removal; and
6. The project would temporarily affect only 53 of the 313,716 acres (*i.e.*, less than 0.017 percent) of the proposed critical habitat in Unit 27.

The incidental take statement accompanying this biological opinion exempts from the take prohibitions of the Act, take of the California red-legged frog that is carried out in accordance with the terms and conditions of the incidental take statement. It does not address the restrictions or requirements of other applicable laws.

## 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 intentional or negligent actions that create the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior 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 the terms and conditions of this incidental take statement.

The measures described below are non-discretionary and the Corps must include these measures 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 fails to implement these terms and conditions, 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)].

#### AMOUNT AND EXTENT OF TAKE

We anticipate that all California red-legged frog adults, metamorphs, tadpoles, and eggs will be taken within the Matilija Dam vicinity and upstream channel area as a result of the proposed dam removal and habitat restoration. Individuals that are killed, injured, or harassed, particularly during dam demolition, slurry operations, grading, vegetation removal, revetment installation, sediment deposition and stabilization, would be difficult to detect because the heavy machinery used in these operations is very large and large volumes of material are moved; these factors make detection of carcasses difficult. Consequently, accurately anticipating how many individuals may be taken is not possible.

If more than ten (10) adult individuals are found dead or injured, or if any tadpoles or egg masses are present during the 36-month period estimated to demolish the Matilija Dam, slurry and stabilize sediments, the Corps shall contact our office immediately so we can review the project activities to determine if additional protective measures are needed. Project activities may continue during this review period, provided that all protective measures proposed by Corps and the terms and conditions of this biological opinion have been and continue to be implemented.

California red-legged frogs may be taken only within the Matilija Reservoir, delta area, and the upstream channel area, which extends for 2.5 miles upstream from the delta area of the reservoir in Matilija Creek.

#### REASONABLE AND PRUDENT MEASURES

Although the Corps has proposed measures to minimize the incidental take of listed species, the Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize additional incidental take anticipated by this biological opinion:

1. Service-authorized biologists must survey for, capture, and relocate California red-legged frogs in areas where unavoidable injury may occur as a result of the proposed project activities.
2. Contaminants must not be introduced into the project area floodplain, or onto nearby soils.

3. Measures to minimize adverse effects to California red-legged frogs must be employed during project implementation.

#### TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

The following terms and conditions implement reasonable and prudent measure 1:

- 1.1 The qualifications of biologists contracted to survey for, capture, and move California red-legged frogs out of harms way must be provided to us for our review and approval at least 30 days prior to the commencement of surveys and/or relocation efforts. No project activities will begin until proponents have received written approval from the Service that the biologist(s) is (are) qualified to conduct the work.
- 1.2 Surveys for California red-legged frogs must be conducted if an open trench has been created that may trap this species. Open trenches must be surveyed by authorized biologists for California red-legged frogs each morning that the trench remains open and accessible to this species.
- 1.3 California red-legged frogs in danger of being taken by project activities must be relocated to nearby appropriate habitat outside of harm's way by biologist(s) authorized by the Service pursuant to this biological opinion.
- 1.4 Biologist(s) authorized by the Service must perform surveys of work areas prior to disturbance to determine the presence California red-legged frogs. Work areas include: areas to be excavated or slurried, roads, beneath vehicles, and areas where vegetation will be removed and sediment will be deposited.
- 1.5 The authorized biologist(s) must minimize the duration of handling and captivity of California red-legged frogs. While in captivity, individuals of this species must be kept in a cool, moist, aerated environment, such as a bucket containing a damp sponge or damp vegetation and they must be maintained in a manner that does not expose them to any environmental conditions that could cause injury or undue stress (such as direct sunlight or excessive time spent in the container). Containers used for holding or transporting these species must not contain standing water (to avoid exhausting the frog by necessitating that it swim). California red-legged frogs should not be transported in the same bucket with western toads or other amphibian species (to avoid direct exposure to other animals' toxins and to minimize the potential for disease transmission).

- 1.6 Soaps, oils, creams, lotions, repellants, nicotine, or solvents of any sort must be cleaned from the hands of any personnel when they are capturing and relocating and California red-legged frogs.
- 1.7 To avoid transferring disease or pathogens between aquatic habitats during the course of surveys and handling of California red-legged frogs, the Service-approved biologist must follow the Declining Amphibian Population Task Force's Code of Practice (attached). Care must be taken so that all traces of disinfectant have been removed from the equipment before it is used in a new aquatic habitat.

The following terms and conditions implement reasonable and prudent measure 2:

- 2.1 In the event of a hazardous material spill within the floodplain, wetland, or riparian area associated with the project area you must contact us within 24 hours to determine the proper course of action and clean-up methods. If a spill occurs on a weekend or late Friday, you must contact us by close of business the following Monday.
- 2.2 All vehicles and equipment used within the floodplain or associated riparian area of project area must be inspected daily to ensure they are free of any leaks of fuel, cooling, lubricating, or other potentially polluting fluid.
- 2.3 No vehicles or other heavy equipment shall be rinsed or cleaned within the waters, floodplain, or associated riparian areas of project area. All necessary precautions must be taken to prevent release of any toxic substances into the waters or onto soils of the project area.

The following terms and conditions implement reasonable and prudent measure 3:

- 3.1 Pets of project personnel that could prey on California red-legged frogs must be prohibited anywhere within the floodplain or associated riparian area of project area during project activities.
- 3.2 The Corps must require that within 15 feet of surface water, only glyphosate-based herbicides licensed for aquatic use (*e.g.* Aquamaster<sup>®</sup> Rodeo<sup>®</sup>) be used. The use of less toxic surfactants such as Agri-Dex or LI 700 is permitted within this zone. The relatively toxic surfactant R-11 must not be used within this zone. No other surfactants may be used within 15 feet of surface water without the prior written approval of the Service.
- 3.3 Because California red-legged frogs may travel further from water when the ground surface is moist, herbicides must not be sprayed when the ground surface within the project area is wet and saturated. Application of herbicides manually to cut stalks is acceptable.

## REPORTING REQUIREMENTS

You must notify us within 7 days if any California red-legged frogs have been moved out of harm's way by Service-approved biologists. Notification must include details of the relocation effort, including species identification, number of individuals, dates, habitat description of the site where relocated individuals were moved from and to, name(s) of the approved biologist(s) who conducted the relocation, if any there were any injuries or mortality of California red-legged frogs, and the fate of relocated individuals. The notification should also include detailed maps showing capture and relocation sites with global positioning coordinates, photos of these sites, and photos of individual California red-legged frogs. Notification should be to Chris Dellith or Rick Farris, of my staff, and may be via electronic mail ([christian\\_dellith@fws.gov](mailto:christian_dellith@fws.gov) or [rick\\_farris@fws.gov](mailto:rick_farris@fws.gov)), telephone (805-644-1766), or letter (2493 Portola Road, Suite B, Ventura, California 93003).

Annually, by February 31, you must provide us with copies of all reports containing the results of surveys for all listed species conducted within the project area, including any incidental observations of listed species. The report must also include a summary of all incidental take and all relocation efforts that have occurred since issuance of this biological opinion. In addition, the report must document the effectiveness of the terms and conditions. If appropriate, the report should also recommend modifications to future project activities and protective measures to enhance the protection of California red-legged frogs.

## DISPOSITION OF INJURED OR DEAD SPECIMENS

Upon locating a dead or injured California red-legged frog, initial notification must be made in writing to the Service's Division of Law Enforcement in Torrance, California (370 Amapola Avenue, Suite 114, Torrance, California 90501) and by telephone and writing to the Ventura Fish and Wildlife Office in Ventura, California, (2493 Portola Road, Suite B, Ventura, California 93003, (805) 644-1766) within 3 working days of the finding. The report must include the date, time, location of the carcass, a photograph, cause of death, if known, and any other pertinent information.

Care must be taken in handling dead specimens to preserve biological material in the best possible state for later analysis. Should any injured California red-legged frogs survive, the Service must be contacted regarding their final disposition. The remains of California red-legged frogs must be placed with 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 ext.321). Arrangements regarding proper disposition of potential museum specimens must be made with the Museum by the Corps prior to implementation of any actions.

### CONSERVATION RECOMMENDATIONS

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.

- 1) We recommend that any non-native predators of the California red-legged frog be permanently removed from the wild if they can be captured while monitoring project activities. Anyone conducting such removals should be in compliance with the California Fish and Game Code.
- 2) The Corps should work with Ventura County to develop and implement a watershed management plan for the Ventura River watershed. Such a plan should include management guidelines for the protection of entire plant and animal communities as well as protocols for re-vegetation following dam removal. This approach to managing fish and wildlife resources would help reduce the threat to species of concern and thereby reduce the need for listing additional species as threatened or endangered. The watershed management plan should include an assessment for all activities associated with the Ventura River watershed.
- 3) The Corps should conduct studies to increase our understanding of the population dynamics of the California red-legged frog in this area. Such studies could include pit-tagging of California red-legged frogs and full surveys of upstream of the project boundaries in Matilija Creek during the breeding season. This type of research and the data obtained could greatly assist the Corps in future consultations within California red-legged frog habitat.

The Service requests notification of the implementation of any conservation recommendations so we may be kept informed of actions benefiting listed species or their habitats.

### REINITIATION NOTICE

This concludes formal consultation and conference on the Corps' proposed Matilija Dam removal project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.



Furthermore, you may ask the Service to confirm the conference opinion as a biological opinion issued through formal consultation if the critical habitat is designated. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

After designation of critical habitat for the California red-legged frog and any subsequent adoption of this conference opinion, the Corps shall request reinitiation of consultation if: 1) new information reveals effects of the agency action that may affect the critical habitat in a manner or to an extent not considered in this conference opinion; or 2) the agency action is subsequently modified in a manner that causes an effect to the critical habitat that was not considered in this conference opinion.

If you have any questions, please contact Chris Dellith of my staff at (805) 644-1766.

Sincerely,

/s/ Carl T. Benz

Carl T. Benz  
Assistant Field Supervisor  
South Coast/Deserts

Enclosure

cc: Martin Potter, California Department of Fish and Game  
Stan Glowacki, NOAA Fisheries

## REFERENCES CITED

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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 study site.
2. Scrub boots, nets, traps, and other types of equipment used in the aquatic environment with 70 percent ethanol solution or a bleach solution of one-half to one cup of bleach in one gallon of water and rinse 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 a "base camp." Elsewhere, when laundry facilities are available, remove nets from poles and wash (in a protective mesh laundry bag) with bleach on a "delicate" cycle.
4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable gloves and change them between handling each animal. Dedicate separate sets of nets, boots, traps, and other equipment to each site being visited. Clean and store them separately at the end of each field day.
5. Safely dispose of used cleaning materials and fluids. Do not dispose of cleaning materials and fluids in or near ponds, wetland, and riparian areas; if necessary, return them to the lab for proper disposal. Safely dispose of used disposable gloves in sealed bags.
6. When amphibians are collected, ensure the separation of animals from different sites and take great care to avoid indirect contact (*e.g.*, via handling or reuse of containers) between them or with other captive animals. Do not expose animals to unsterilized vegetation or soils which have been taken from other sites. Always use disinfected and disposable husbandry equipment.
7. If a dead amphibian is found, place it in a sealable plastic bag and refrigerate (do not freeze). If any captured live amphibians appear unhealthy, retain each animal in a separate plastic container that allows air circulation and provides a moist environment from a damp sponge or sphagnum moss. For each collection of live or dead animals, record the date and time collected, location of collection, name of collector, condition of animal upon collection, and any other relevant environmental conditions observed at the time of collection. Immediately contact the Ventura Fish and Wildlife Office at (805) 644-1766 for further instructions.

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.

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