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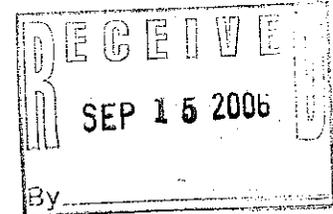


FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
PAS 2398.3675.4418

September 13, 2006

Alessandro Amaglio, Environmental Officer
Federal Emergency Management Agency
1111 Broadway, Suite 1200
Oakland, California 94607-4052



Subject: Biological Opinion for the Cambria Storm Drain and Pump Station Project, San Luis Obispo County, California (FEMA-1046-DR-CA, HMGP #1046-157-1003) (1-8-05-F-44)

Dear Mr. Amaglio:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the Federal Emergency Management Agency's (FEMA) proposed funding of the Cambria storm drain and pump station project and its effects on the federally threatened California red-legged frog (*Rana aurora draytonii*) in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act). Your letter requesting formal consultation, dated September 28, 2005, was received on September 29, 2005.

This biological opinion is based on the biological assessment (URS 2005) and other information which accompanied your request for formal consultation, your letter dated February 1, 2006, additional information from your contractor (URS Corporation) and our files. A complete administrative record of this consultation is available at the Ventura Fish and Wildlife Office.

The biological assessment (URS 2005) included your determination that the proposed project is not likely to adversely affect the federally endangered tidewater goby (*Eucyclogobius newberryi*). Tidewater gobies inhabit the Santa Rosa Creek lagoon, which is approximately 230 yards downstream of the project site. The species has been observed upstream of the lagoon only once, which followed an unusual flood event in 1995. The riffles in Santa Rosa Creek just above the lagoon normally prevent tidewater gobies from moving upstream (Alley 2006). In addition, FEMA has proposed minimization measures to prevent degradation of water quality. In sum, we concur with your determination that the proposed project is not likely to adversely affect the tidewater goby.

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BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Full details of the proposed action are contained in your letters to us dated September 28, 2005, and February 1, 2006, and the biological assessment (URS 2005). The following brief description summarizes the information in those documents.

The County of San Luis Obispo (County) has applied to FEMA for funding of a flood control project in the West Village of Cambria. The purpose of the proposed project is to reduce the threats to property, human health and safety caused by floodwaters of Santa Rosa Creek inundating the West Village of Cambria. The proposed project includes construction and operation of a series of underground pipelines, a small detention basin with an earthen berm, a pump house, and two outlets draining into Santa Rosa Creek.

The project includes work sites on both sides of Highway 1; many sites on the northeast side of Highway 1 comprising existing roads and a vacant lot, and two sites on the southwest side of Highway 1 at Santa Rosa Creek. The County would construct two new pipes (30 inch diameter) underneath Highway 1. One pipe would connect a new pump station on the northeast side of Highway 1 to a drain on the southwest side. The other would connect a pipe from a new detention basin on the northeast side of Highway 1 to another drain on the southwest side. The County would remove riparian vegetation from along the northeast bank (300 square feet per outlet) where the two drains empty into Santa Rosa Creek and replace it with rip rap. The County would temporarily disturb an additional 100 square feet of riparian vegetation along each drain.

The County will implement many protective measures to avoid and reduce adverse effects to California red-legged frogs and their habitat, including the following.

1. The County will conduct construction activities in Santa Rosa Creek and the riparian habitat during the latter part of the dry season (April 15 to October 15).
2. The County will install exclusion fences at the margins of the work areas.
3. A Service-approved biologist will conduct preconstruction surveys for California red-legged frogs. If any are found, the biologist will contact the Service to determine if moving them is appropriate.
4. Prior to construction, a qualified biologist will conduct a training session regarding California red-legged frogs for all construction personnel.
5. A Service-approved biologist will monitor construction activities along Santa Rosa Creek.

6. The Service-approved biologist will follow the Declining Amphibian Populations Task Force Fieldwork Code of Practice.
7. The County will revegetate the action area with native plant species.

STATUS OF THE SPECIES

The California red-legged frog was federally listed as threatened on May 23, 1996 (61 *Federal Register* 25813). The Service has published a recovery plan for the species (Service 2002). We designated critical habitat for the California red-legged frog on March 13, 2001 (66 *Federal Register* 14626); however, this rule was vacated and we proposed a revised critical habitat designation on April 13, 2004. Based on public comments we received together with our own re-evaluation of the selection criteria and primary constituent elements of essential California red-legged frog habitat, we further revised critical habitat for the California red-legged frog. Our re-proposed critical habitat was published in November 2005 (70 *Federal Register* 66906). We designated final critical habitat for the California red-legged frog on April 13, 2006 (71 *Federal Register* 19244).

Detailed information on the biology of California red-legged frogs can be found in the recovery plan. 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 have been documented to move more than 2 miles in northern Santa Cruz County "without apparent regard to topography, vegetation type, or riparian corridors" (Bulger in litt. 2000 in 66 *Federal Register* 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.

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 *Code of Federal Regulations* 402.02). For the purposes of this biological opinion, we identify the action area as the two work sites along the northeast bank of Santa Rosa Creek, approximately 230 yards and 535 yards upstream of the lagoon. The two work sites include the 300-square foot area where each of the two drains empties into Santa Rosa Creek, and the 100-square foot area along each of the two drains where riparian vegetation would be temporarily disturbed.

Santa Rosa Creek in the vicinity of the action area has a wide channel with riparian forest, wetland habitat and open pools of water. Arroyo willows (*Salix lasiolepis*), California blackberry (*Rubus ursinus*), and poison oak (*Toxicodendron diversilobum*) are prominent in the riparian forest. Cattails (*Typha* spp.) are prominent in the wetland habitat.

Julie Schneider (biological consultant, Cambria) surveyed 0.7 mile of Santa Rosa Creek, which included the action area, for California red-legged frogs in September, 2003 (Service 2003). She sighted at least 12 California red-legged frogs along with other frogs that could not be identified. Based upon Ms. Schneider's information, we believe that California red-legged frogs breed in this reach of the creek. In addition, your biological assessment refers to two records for California red-legged frogs in Santa Rosa Creek adjacent to and 0.5 mile from the action area.

The recovery plan for the California red-legged frog describes eight recovery units that are based on the level of threat to the species and the stability of the existing populations. Santa Rosa Creek is in the Central Coast Recovery Unit, which generally includes the coastal portions of Santa Cruz, Monterey and San Luis Obispo Counties. This recovery unit contains the greatest number of drainages currently occupied by the California red-legged frog (Service 2002).

EFFECTS OF THE ACTION

The County would remove 600 square feet of riparian vegetation from the northeast bank of Santa Rosa Creek and temporarily disturb another 200 square feet in two drains. The impact of this habitat loss and disturbance will be temporary because the County will revegetate the areas with native plant species. Because the County would conduct the proposed work in Santa Rosa Creek and the riparian habitat during the latter part of the dry season, effects to breeding California red-legged frogs will be avoided. In addition, because the County would implement best management practices and erosion control measures, effects to water quality by sedimentation will be minor.

Construction activity in the action area may cause any California red-legged frogs in the action area to temporarily leave. The affected California red-legged frogs would likely move along the creek to nearby suitable habitat in the creek. While dispersing and living in unfamiliar habitat, the affected California red-legged frogs would be at greater risk of predation and desiccation.

The County will install exclusion fences at the margins of the work sites. These fences will prevent workers and equipment from encroaching into adjacent habitat. Workers may intentionally or unintentionally disturb, injure or kill California red-legged frogs during project activities. The potential for this impact to occur will be reduced by informing workers of the presence and protected status of the subspecies and the measures being implemented to protect it during the proposed project.

Workers will keep food-related trash in closed containers, which the County will regularly remove from the work sites. These actions will prevent attracting predators of California red-legged frogs to the area.

The proposed capture and handling of California red-legged frogs to move them from work sites may result in injury or mortality by improper handling, containment, transport of individuals, or releasing them into unsuitable habitat. This impact will be reduced or prevented by use of a Service-approved biologist. California red-legged frogs that are not detected and relocated from the work sites may be crushed by equipment, materials and worker foot traffic.

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 the 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 one to two weeks. Infected animals may spread the fungal spores to other streams and pools before they die. Once a pool has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. It is possible that during the relocation of California red-legged frogs, 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 killed. This risk will be reduced by the Service-approved biologist following the Declining Amphibian Populations Task Force Fieldwork Code of Practice.

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 project, and the cumulative effects, it is the Service's biological opinion that FEMA's proposed funding of the Cambria Storm Drain and Pump Station Project is not likely to jeopardize the continued existence of the California red-legged frog.

We have reached this conclusion because:

1. Only 600 square feet of California red-legged frog habitat along Santa Rosa Creek would be removed by the project, and only 200 square feet would be temporarily disturbed.
2. FEMA has proposed measures to reduce the adverse effects of the proposed activities on the California red-legged frog.
3. Few, if any, California red-legged frogs are likely to be killed or injured during project activities.
4. Opportunities for California red-legged frogs in Santa Rosa Creek to forage, shelter and breed will remain after construction is complete.

INCIDENTAL TAKE STATEMENT

Section 9 and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. The Act defines take as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. The Service defines harm 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. The Service defines harass as intentional or negligent actions that create the likelihood of injury to listed species 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. The Service defines incidental take 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 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 must be undertaken by FEMA so that they become binding conditions of its funding to the County for the exemption in section 7(o)(2) to apply. FEMA has a continuing duty to regulate the activity covered by this incidental take statement. If FEMA fails to require the County to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, FEMA or the County must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [*50 Code of Federal Regulations* 402.14(i)(3)].

We anticipate the following level of take may result from the proposed activities.

All California red-legged frogs in the action area are likely to be taken as a result of project activities. Most of these will be the result of capture and relocation, during which some may be killed or injured. Few are likely to be directly killed or injured as a result of construction activities due to capture and relocation efforts. Because of the relatively small size of the action area and the low number of California red-legged frogs recorded in the vicinity of the action area during the most recent survey, we anticipate that few, if any, California red-legged frogs will be taken.

This incidental take statement does not exempt any activity from the prohibitions against take contained in section 9 of the Act that is not incidental to the action as described in this biological opinion. California red-legged frogs may be taken only within the defined boundaries of the action area as described in the Environmental Baseline section of this biological opinion.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the California red-legged frog.

1. California red-legged frogs that are at risk of injury or death must be moved from work areas.
2. FEMA and the County must ensure that the level of incidental take during project implementation is commensurate with the analysis contained in this biological opinion.

The Service's evaluation of the effects of the proposed action includes consideration of the measures developed by FEMA and repeated in the Description of the Proposed Action section of this biological opinion to minimize the adverse effects of the project on the California red-legged frog. Any subsequent changes in the measures proposed by FEMA may constitute a modification of the proposed action and may warrant reinitiation of formal consultation, as specified at 50 *Code of Federal Regulations* 402.16. These reasonable and prudent measures are intended to supplement the protective measures that were proposed by FEMA as part of the proposed action.

TERMS AND CONDITIONS

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

1. The following terms and conditions implement reasonable and prudent measure 1.
 - a. California red-legged frogs that are captured must be relocated to nearby suitable habitat in Santa Rosa Creek.
 - b. FEMA or the County must request our approval of any biologist it wishes to survey for, monitor, capture and relocate California red-legged frogs. The request must be in writing and be received by us at least 30 days prior to any such activities being conducted. Kate Ballantyne is hereby authorized to independently survey for, monitor, capture and relocate California red-legged frogs for the purposes of this biological opinion. Eric N. Wier, Richard Trevis Warner and John Farhar are hereby authorized to independently survey for and monitor California red-frogs, and to capture and relocate them under the direct supervision of Ms. Ballantyne.
2. The following term and condition implements reasonable and prudent measure 2.

If more than two (2) California red-legged frogs are found dead or injured in the action area, FEMA or the County must 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 FEMA and the terms and conditions of this biological opinion have been and continue to be implemented.

REPORTING REQUIREMENTS

FEMA must provide us with a final report describing the impacts of the project on California red-legged frogs. The report must provide the results of biological surveys and sighting records, and also document the following: the number of California red-legged frogs relocated from the action area or killed or injured during the project; the dates and times of capture, mortality or injury; specific locations of capture, mortality or injury; approximate size and age of individuals; and a description of relocation sites. We request that the report also contain a discussion of the problems encountered in implementing the terms and conditions and other protective measures, recommendations for modifying the terms and conditions to enhance the conservation of California red-legged frogs, and any other pertinent information. The report will assist us in evaluating future measures for the protection of California red-legged frogs during construction projects while enhancing the County's abilities to undertake its activities. The report must be submitted to us within 60 days following completion of the proposed project

DISPOSITION OF DEAD OR INJURED SPECIMENS

Upon locating a dead or injured California red-legged frog, the Service's Division of Law Enforcement (370 Amapola Avenue, Suite 114, Torrance, California 90501) must be notified, in writing, within 3 working days of its finding. This notification may be provided by facsimile (310/328-6399). You must also notify the Ventura Fish and Wildlife Office (2493 Portola Road, Suite B, Ventura, California, 93003; 805/644-1766) by telephone and in writing. The report must include the date, time, location, a photograph, cause of injury or death if known, and any other pertinent information.

Dead California red-legged frogs must be preserved in the best possible manner. FEMA must ensure that the County places the remains of California red-legged frogs with educational or research institutions holding the appropriate State and Federal permits per their instructions. For the Santa Barbara Natural History Museum, contact: Paul Collins, Santa Barbara Natural History Museum, Vertebrate Zoology Department, 2559 Puesta Del Sol, Santa Barbara, California 93105; 805/682-4711, extension 321.

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. FEMA and the County should work towards the implementation of recovery actions identified in the California red-legged frog recovery plan (Service 2002).

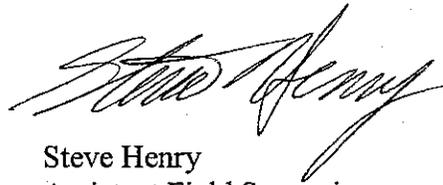
The Service requests notification of the implementation of any conservation recommendation so we may be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats.

REINITIATION NOTICE

This concludes formal consultation on your proposed funding of the Cambria storm drain and pump station project. As provided in 50 *Code of Federal Regulations* 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 or critical habitat 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.

If you have any questions, please contact Chris Kofron of my staff at (805) 644-1766, extension 303.

Sincerely,



Steve Henry
Assistant Field Supervisor
San Luis Obispo/Northern Santa Barbara

REFERENCES

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- U.S. Fish and Wildlife Service. 2003. Biological opinion for the cross town trail project, Cambria, San Luis Obispo County, California (HDA-CA, File #05-SLO-01, Cambria cross town trail, document #P46767) (1-8-03-F-40). Ventura, California.