



United States Department of the Interior



In Reply Refer to:
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2014-F-0462

FISH AND WILDLIFE SERVICE
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Ms. Jane Hicks
Chief, Regulatory Division
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

JAN 08 2015

Subject: Appending the Stonybrook Creek Fish Passage Improvement Project in Alameda County, California (U.S. Army Corps of Engineers file number 27898S) to the June 14, 2014 *Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorization Under 22 Nationwide Permits, for Projects that May Affect the Threatened California Red-Legged Frog in Nine San Francisco Bay Area Counties, California*

Dear Ms. Hicks:

This letter is in response to your June 10, 2014 request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the Stonybrook Creek Fish Passage Improvement Project (Project)(Corps file number 27898S). At issue are potential effects of the proposed Project on the federally threatened California red-legged frog (*Rana draytonii*), and the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) and its critical habitat. Critical habitat has been designated for the California red-legged frog, but none is within the Project area, so none will be affected. Your request was received on June 18, 2014. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The Service concurs that the Project may affect, but is not likely to adversely affect, the Alameda whipsnake or its critical habitat for the following reasons: (1) conservation measures implemented with the Project, including environmental awareness training for all workers, pre-construction surveys for listed species, and scheduling work to be during the snake's active season will help avoid adverse effects to the species; (2) the action area does not contain suitable breeding, foraging or sheltering habitat for Alameda whipsnake, so none will be affected by the Project; (3) a small amount (approximately 0.56 acre) of suitable dispersal habitat will be temporarily impacted by the Project, and an even smaller amount (approximately 0.29 acre) will be permanently impacted, but these habitat impacts will not significantly alter Alameda whipsnake's ability to use the action area for dispersal.

Stonybrook Creek is a tributary to Alameda Creek, draining approximately six square miles of Alameda County before joining Alameda Creek in Niles Canyon, 13 river miles upstream from San Francisco Bay. Historically, the Alameda Creek watershed, including Stonybrook Creek, provided

spawning and rearing habitat for anadromous steelhead trout (*Oncorhynchus mykiss*). A number of barriers to upstream migration, however, currently prevent anadromous fish from accessing much of the suitable spawning habitat. This Project is aimed at removing two such barriers along a section of Stonybrook Creek, which will make approximately 0.7 stream miles accessible to trout as spawning and rearing habitat, while improving sediment management and reducing the potential for flood-related damage that might result from the existing, undersized culverts.

The Corps requested that this Project be appended to the June 18, 2014 *Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorizations Under 22 Nationwide Permits, for Project that May Affect the Threatened California Red-Legged Frog in Nine San Francisco Bay Area Counties, California* (Service file number 08ESMF00-2014-F-0389)(Programmatic Biological Opinion). The proposed Project fits the suitability criteria of and is within the geographic area analyzed in the Programmatic Biological Opinion. Therefore, this letter is an agreement by the Service to append the proposed action to the Programmatic Biological Opinion and represents the Service's biological opinion on the effects of the proposed action on the California red-legged frog. By appending the proposed action to the Programmatic Biological Opinion, the permittee, the Alameda County Resource Conservation District (ACRCD), acknowledges and accepts all of the conservation measures to minimize adverse effects. The ACRCD will also follow all reasonable and prudent measures, and all terms and conditions as directed by the Programmatic Biological Opinion. The Corps will ensure that the ACRCD meets all of these obligations.

The following sources of information were used to develop this biological opinion: (1) The Programmatic Biological Opinion; (2) the June 10, 2014 consultation initiation letter and the accompanying information, including the December, 2013 Biological Information Packet for the Stonybrook Creek Fish Passage Improvement Project; (3) emails and phone calls between the Service and ACRCD; and (4) other information available to the Service.

Consultation History

- June 18, 2014: The Service received the consultation request from the Corps
- August 26, 2014: The Service sent an email to ACRCD requesting information about the Project's area of impact and indirect effects of the Project, among other issues.
- August 27, 2014: ACRCD responds to the Service's request and provides the request information.
- October 6, 2014: The Service sent an email to ACRCD requesting further information about monitoring Stonybrook Creek following construction.
- October 23, 2014: ACRCD responds to the Service with information regarding how the action area will be monitored following Project completion.

BIOLOGICAL OPINION

Description of the Action

The proposed Project will address two existing culverts along Palomares Road, which runs parallel to Stonybrook Creek, found at Mile Post (MP) 8.60 and MP 8.75. These two culverts represent the most downstream of eight publically maintained crossings of Stonybrook Creek. Seven of these crossings, including the two addressed by the Project, have been identified as complete barriers to fish passage. The Project will completely replace the culvert at MP 8.60, and will retrofit the culvert at MP 8.75.

The culvert at MP 8.60, the more upstream of the two culverts, is located approximately 1.21 miles upstream of the Stonybrook Creek confluence with Alameda Creek. The existing crossing, which consists of a grouted masonry channel 31 feet in length and a concrete bridge deck, will be removed. The channel in the vicinity of the crossing will be re-graded, and cast-in-place strip footing will be installed. The re-grading will create a stable grade underneath the crossing, and incorporate a step-pool design that will facilitate fish passage. Native rocks from a downstream boulder jam will be used to the extent possible. A large pool that lies just downstream of the crossing will be reduced in size and incorporated into the step-pool design. A new, pre-cast concrete arch culvert will then be placed on the footings, followed by paving of the final roadway over the culvert. The final roadway will be slightly wider than the existing roadway, but will otherwise occupy the same footprint. During construction, a prefabricated temporary bridge, approximately 85 feet long by 8.5 feet wide, will be placed across Stonybrook Creek north of the existing culvert. This bridge will be outside of the current roadway alignment, but will act as a temporary crossing for emergency vehicles during construction.

Equipment used for construction at the MP 8.60 culvert will include bulldozers, loaders, cranes, and dump trucks, which will be staged in the eastbound lane of Palomares Road. To access the Project site, equipment will use an existing roadway pullout and the northeastern bank of the creek. Temporary footing, re-grading and removal of vegetation will be required for such access. Construction and access at this site will temporarily impact 0.14 acre and permanently impact 0.07 acre, due largely to the road widening and re-grading of the stream channel.

The downstream culvert, at MP 8.75, is located approximately 1.04 miles upstream of the Stonybrook Creek confluence with Alameda Creek. The existing crossing is a reinforced concrete box that is approximately 90 feet in length, including inlet and outlet aprons. The Project will involve installation of angled baffles throughout the box culvert and removal of the aggraded material that is currently at the culvert inlet. In addition, the stream channel will be re-graded to be slightly steeper than the current grade and to include a step-pool morphology that will allow for fish passage. At both upstream and downstream culverts, the step-pool design is intended to mimic the natural morphology of the stream.

The equipment used for construction at the downstream culvert will be the same types used for the upstream culvert. Access for in-creek work will be via the northeastern bank of the creek, and will include some re-grading and vegetation removal. Work at this site will result in temporary impacts to approximately 0.42 acre of habitat and permanent impacts to 0.22 acre, all within the stream bed and bank.

The Project will require the removal of nine trees with a diameter at breast height (DBH) greater than four inches, including five trees from the upstream culvert site and four trees from the downstream site. Several other trees will require trimming to allow construction access. An appropriate native tree will be planted following construction to replace the single non-native tree that is removed. The native trees will be mitigated for in kind at the following ratios: 9 to 1 for California bay laurel, big leaf maple, and white alder, and 3 to 1 for coast live oak. In addition to mitigating for trees removed, areas that are temporarily impacted by the Project will be restored to approximate pre-Project condition. ACRCDD will monitor restored areas and revegetated areas as needed for up to five years.

Dewatering will be required at both culvert sites during construction. In total, approximately 0.13 mile of stream will be dewatered. Prior to dewatering, intakes will be completely screened with wire mesh not larger than five millimeters, and coffer dams will be constructed upstream and downstream of the work area. Water will then be diverted through a lined diversion channel. Normal flows will be restored to the affected area immediately upon completion of work at a given location.

The Project will also involve monitoring within the section of stream potentially affected by the Project. This section begins at the downstream culvert and extends approximately 0.7 miles upstream, where there is another barrier to fish passage. Prior to construction, this section of stream will be surveyed for California red-legged frogs and potential breeding habitat. Areas of suitable breeding habitat will be re-surveyed during the breeding season every year following this initial survey for a total of five years to assess any changes in breeding activity within this section of stream that may have resulted from the Project.

Conservation Measures

The conservation measures specified in the Programmatic Biological Opinion will be implemented with the Project. In addition, the ACRCDD has proposed the following measures to minimize or avoid impacts to listed species:

1. Any rock or rubble designated for removal shall be inspected for presence of wildlife prior to moving. If listed species are found they will be relocated by a Service-approved biologist to a suitable location out of the construction area or be allowed to leave on their own.
2. Restoration activities located near confirmed presence of California red-legged frogs will take place between August 31 and October 31 (or the first rainfall of the season depositing more than 0.25 inches) when larval development of frogs is likely to be complete and there is less water present.
3. Sediment removed during pond and/or stream restoration activities will not be placed where it may enter California red-legged frog breeding pools.
4. All burrows that provide upland habitat will be avoided to the maximum extent feasible. Areas with high concentrations of such burrows will be flagged and avoided.
5. Bare hands will be used to capture any California red-legged frogs. No soaps, oils, lotions, repellents, or solvents of any sort will be used on Service-approved biologist's hands within two hours before or during periods when capturing or relocating individuals.

6. Restoration activities will take place between June 15 and October 31 when Alameda whipsnake is more active and less likely to be impacted.

Action Area

The action area is defined in 50 CFR § 402.02, as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” For the purposes of the effects assessment, the action area encompasses the work sites at the two culverts, including access points and in-stream work areas. In addition, the action area includes the 0.7-mile section of stream upstream from the Project site, which the Project will render accessible to predatory fish that are currently excluded.

Status of the Species

Refer to pages 13 through 17 of the Programmatic Biological Opinion for the current status of the California red-legged frog.

Environmental Baseline

The section of Stonybrook Creek that lies within the action area is relatively steep and rocky, and is situated at the bottom of Stonybrook Canyon, which in turn has relatively steep walls. The creek has been impacted historically by low-density residential use, minor agricultural operations and the existence of several road crossing, two of which are being addressed by the Project. Existing vegetation in the action area includes coast live oak, valley oak, western sycamore, California bay, and other riparian species. The understory of the upper banks is primarily annual grasses and forbs, with poison oak, California sage and coyote brush also present. Historically, this section of the creek almost certainly contained predatory fish, including anadromous and resident rainbow trout. These species have been excluded from the action area, however, since the construction of the fish passage barriers that currently exist along Alameda and Stonybrook Creeks. Resident rainbow trout have been observed in the lower section of Stonybrook Creek, downstream of the Project area.

There are a number of pools of varying depths and size within the action area, including one directly below the culvert at MP 8.60. These pools generally lack emergent vegetation, although there are rocks of varying sizes that may be used by California red-legged frogs as refugia. These pools also tend to be heavily shaded, making regular, successful breeding unlikely. Nonetheless, California red-legged frogs may use these pools for breeding on occasion, and adults likely use the pools and other stretches of the creek for foraging, sheltering and dispersal.

The action area lies within California red-legged frog Recovery Unit 4 (South and East San Francisco Bay)(Service 2002) and Core Area 16 (East San Francisco Bay). The region surrounding the action area was selected as a Core Area because it is currently occupied by California red-legged frog, it has the potential to act as a source from which frogs may disperse to unoccupied areas, and it has the potential to provide habitat connectivity between populations at a landscape scale.

The California Natural Diversity Database (CNDDB) contains four documented occurrences of California red-legged frog within a three mile radius of the Project site. The nearest of these is approximately 1.65 miles southeast of the Project area along Alameda Creek. In addition, adult California red-legged frogs were observed along Stonybrook Creek near the MP 8.60 site and approximately 0.4 mile upstream in winter 2013 and spring 2014 during surveys for the Project.

Although these surveys were done during the breeding season, no evidence of breeding, including eggs or tadpoles, was observed.

Given the presence of suitable habitat and the biology and ecology of the species, the Service has determined that California red-legged frog is present in the action area and uses the habitat for sheltering, foraging, dispersal, and occasional breeding.

Effects of the Action

Effects to California red-legged frog that may result from the Project were analyzed in the Programmatic Biological Opinion. Specifically, direct effects may include injury or mortality to individual California red-legged frogs from crushing by construction equipment, vehicles, or worker foot traffic. The conservation measures, including pre-construction surveys, environmental awareness training, and presence of a Service-approved biologist, will help reduce the likelihood of such occurrences. Individual California red-legged frogs may also be non-lethally harmed and harassed during capture, although such capture would usually preclude more significant negative effects to the individual.

The Project will result in the temporary loss of approximately 0.56 acre of habitat at the two culvert sites combined. During construction, this area will not be available to California red-legged frogs for foraging, sheltering or dispersal, which may force individual frogs to disperse into habitat that is already occupied or is less suitable. The Project will also result in the permanent alteration or loss of approximately 0.29 acre at the two sites combined. This loss will be offset by greater streambed and bank stability surrounding the two culverts upon Project completion. This increased stability will, in turn, result in decreased water velocity, lower erosion potential, and improved water quality onsite and downstream from the Project area, all of which may benefit California red-legged frog habitat.

The pool directly below the culvert at MP 8.60, which currently provides suitable aquatic non-breeding and potentially aquatic breeding habitat, will be permanently removed as that area is incorporated into the modified stream design. The step pools that are created through the section, however, will provide the same pool area as the existing pool, along with providing the benefits to the stream described above.

California red-legged frogs may also be affected by the likely introduction of predatory fish into the 0.7 mile section of Stonybrook Creek from which such predators are currently excluded. Rainbow trout, for example, has been found below the downstream barrier (MP 8.75), and would be able travel upstream following barrier removal, although the anadromous form of the species (steelhead) would still be excluded from Stonybrook Creek due to barriers further downstream in Alameda Creek. Rainbow trout is native to the region, and is known to co-occur with California red-legged frog, a situation which likely occurred in the action area prior to the presence of fish passage barriers. Native fish are generally not considered a threat to adult California red-legged frogs, but have been shown to predate tadpoles at low levels (Calef 1973). Because breeding by California red-legged frogs is expected to be infrequent in the action area, however, the effects of low-level tadpole predation, though considered in this analysis, is expected to be too low to be detectable.

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 Stonybrook Creek Fish Passage Improvement Project are not considered in this section; they require separate consultation pursuant to Section 7 of the Act. The Service is not aware of specific projects that might affect California red-legged frog in the action area that are currently under review by State, county, or local authorities.

Conclusion

The Stonybrook Creek Fish Passage Improvement Project, as described, fits within the parameters of the level of effects analyzed in the Programmatic Biological Opinion and is therefore not likely to jeopardize the continued existence of the California red-legged frog.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a 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. Harm is 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. 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 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 must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, 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 (1) fails to assume and implement the terms and conditions or (2) fails to require the ACRCDD to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the ACRCDD 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 or Extent of Take

The Service anticipates that incidental take of the California red-legged frog will be difficult to detect because of their life history. Specifically, when California red-legged frog are not in their breeding ponds they may be difficult to locate due to their cryptic appearance and behavior; they may be located a distance from the breeding ponds; and finding an injured or dead individual is unlikely because of their relatively small body size. Losses of these species also may be difficult to quantify due to seasonal fluctuations in their numbers, dispersal into and out of a given area, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances. Therefore, the Service anticipates that all California red-legged frogs inhabiting the action area surrounding the two culvert sites (less than 0.6 acre) will be subject to incidental take in the form of non-lethal harm and harassment from habitat modification, construction activities, and

capture. The Service anticipates that no more than one California red-legged frog will be subject to incidental take in the form of death or injury as a result of Project activities. Upon implementation of the following reasonable and prudent measure, incidental take of the California red-legged frog associated with the proposed action will become exempt from the prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

Effect of the Take

The proposed Project, as described, fits within the parameters of the level of take anticipated in the Programmatic Biological Opinion and the Service has determined that this level of anticipated take is not likely to result in jeopardy to the California red-legged frog.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize impacts of incidental take of California red-legged frog:

1. The Corps will minimize effects to the California red-legged frog and its habitat resulting from project related activities by following this biological opinion and the Programmatic Biological Opinion as modified by the terms and conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps shall ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above and outline required reporting/monitoring requirements. These terms and conditions are nondiscretionary.

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


1. The ACRCDD shall report to the Service annually during the five year monitoring period on the results of habitat assessments and breeding season surveys. The first report will be submitted to the Service subsequent to the initial survey but prior to the initiation of ground-disturbing activity. Surveys and reports will include any available information about rainbow trout in the action area following Project construction.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Stonybrook Creek Fish Passage Improvement 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 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 additional take will not be exempt from the prohibitions of section 9 of the Act, pending reinitiation.

If you have any questions regarding this biological opinion on the proposed Stonybrook Creek Fish Passage Improvement Project please do not hesitate to contact Bjorn Erickson, Biologist, or Ryan Olah, Coast Bay Division Chief, at the letterhead address, electronic mail (Peter_Erickson@fws.gov; Ryan_Olah@fws.gov), or at telephone (916) 414-6600.

Sincerely,

 Jennifer M. Norris
Field Supervisor

Literature Cited

Calef, G.W. 1973. Natural mortality of tadpoles in a population of *Rana Aurora*. Ecology. 54(4). Pp. 741-758.

U.S. Fish and Wildlife Service (Service). 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). Portland, Oregon. 173 pages.