Enclosure 3

United States Department of the Interior

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

IN REPLY REFER TO:
08EVEN00-2015-F-0178

May 8, 2017

Jane M. Hicks, Chief
Regulatory Division, San Francisco District
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Subject: Biological Opinion for the Carmel Lagoon Interim Sandbar Management Plan Project and Department of the Army Regional General Permit 5 Issuance, Carmel River, Monterey County, California (File Number SPN-1996-190890S)

Dear Ms. Hicks:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the U.S. Army Corps of Engineers' (Corps) authorization, pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 403) and Section 404 of the Clean Water Act of 1972 (33 U.S.C. 1344), of the Emergency Sandbar Management and proposed Interim Sandbar Management Plan (ISMP) at the Carmel Lagoon in Monterey County, California. At issue are the subject project's effects on the federally threatened western snowy plover (*Charadrius alexandrines nivosus*) and the California red-legged frog (*Rana draytonii*) and its critical habitat. We prepared this document in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.).

We received your March 20, 2015 request for consultation for the ISMP on March 23, 2015. On January 8, 2016, the Monterey County Resource Management Agency (MCRMA) informed us of an emergency flooding situation that threatened property and of the need to undertake Emergency Sandbar Management. Pursuant to section 7 regulations that address emergency situations (50 CFR §402.05), Jacob Martin of my staff closely coordinated with the Corps and MCRMA to ensure appropriate measures were implemented to avoid and minimize impacts to California red-legged frogs and western snowy plovers during the implementation of the Emergency Sandbar Management. On November 22, 2016, we received a revised request for consultation on the ISMP and the previously conducted Emergency Sandbar Management.

This biological opinion is based on information from your requests for consultation, the biological assessment (Denise Duffy and Associates (BA) 2014), the Emergency Sandbar Management Post Activity Report (MCRMA 2016), and information in our files. A complete decision record of this consultation can be made available at the Ventura Fish and Wildlife Office.

Not Likely to Adversely Affect Determination

Western Snowy Plover

Western snowy plovers have been observed at the Carmel River State Beach during surveys conducted in the summer of 2012 (H.T.H. 2013). Although suitable habitat is present within the project vicinity, the species has not been documented to breed within this area. This is likely due to heavy pedestrian use of the beach and associated facilities by locals and tourists. It was anticipated that, due to their mobility, any individuals in the project vicinity would easily move from the area during the Emergency Sandbar Management activities. Western snowy plovers were observed roosting along the sandbar during Emergency Sandbar Management activities conducted on January 9, 2016. Roosting areas were staked off to prevent encroachment in this area. Snowy plovers were observed taking flight concurrent with pedestrian and County staff and equipment movement across the beach, and returning minutes after this activity (MCRMA 2016). Based on this information, we have determined that impacts to western snowy plovers during emergency management activities resulted in, at most, the temporary displacement of individuals from roosting areas, and as such were insignificant, not reaching the level of harassment. Additionally, in consideration of the proposed minimization measures described below, which are part of the project description, we concur that the proposed ISMP is not likely to adversely affect the species as any potential impacts are also anticipated to be insignificant. Critical habitat for the species has not been designated in or around the project area; therefore, none would be affected.

Western snowy plover minimization measures:

1. Immediately prior to and concurrent with sandbar management activities, a qualified biologist will conduct surveys for western snowy plovers within the species potential habitat.

2. A qualified biologist will ensure that any western snowy plover individuals present in an area to be traversed by people or equipment are absent or disperse from the project area and are not impacted from project activities.

Consultation History

The Corps requested informal consultation on the ISMP in a request dated March 20, 2015, and received in our office on March 23, 2015. From December 11, 2015 through January 8, 2016, email and phone correspondence between the MCRMA, the Corps, and Jacob Martin of my staff were exchanged. These correspondences indicated that emergency management activities were likely necessary due to delays in obtaining authorization from the Corps. Mr. Martin coordinated with the Corps and MCRMA to ensure appropriate measures, which primarily entailed conducting surveys for the species, were implemented to ensure impacts to California red-legged frogs were avoided and/or minimized. On January 8, 2016, the MCRMA indicated that equipment and people were being mobilized to conduct the emergency activities due to quickly

rising water levels. The emergency activities were conducted over two days, ending on January 9, 2016. On November 22, 2016, the Corps submitted a revised request for consultation for the ISMP and the previously conducted Emergency Sandbar Management.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Since 1973, sandbar management activities at the Carmel Lagoon have been conducted to address the potential for flooding impacts to low-lying properties during high river flows in the fall and early winter. Lagoon levels can rise to flood stage with the result that public and private properties are threatened with flooding before the sandbar can breach naturally. Project related impacts in waters of the United States typically include mechanical breaching of the sandbar in the winter and spring, and backfilling the channel plug in the summer. Additionally, a channel is cut from the west edge of the lagoon, in a south-westerly direction across the sandbar, approximately 600 feet in length, 5 feet in depth, with a 10-foot-wide bottom and 2:1 slope. The total area of the channel is approximately 18,000 square feet. The total volume of excavated sand is approximately 222 cubic yards per event.

Emergency Management Activities

During the winter of 2015-2016, the MCRMA applied for an emergency permit from the Corps, (Regional General Permit No. 5), to address rising water levels within the Carmel Lagoon. The Corps determined that the situation presented an imminent threat to neighboring residences along the northern edge of the lagoon, the parking lot and restroom facilities at the Carmel River State Beach, and the Carmel Area Wastewater District treatment facility. The Corps subsequently coordinated with the Service to ensure potential impacts to the California red-legged frog and western snowy plover were minimized or avoided. The Service coordinated through electronic mail and phone correspondence with the Corps in order to provide recommended measures to reduce impacts to the California red-legged frog and western snowy plover.

On January 9, 2016, the MCRMA mobilized resources at the project site and cut a notch in the berm at the south end of the Carmel River State Beach. The eastern edge of the notch began approximately 40 feet west of the western edge of the lagoon water line. The notch alignment was designed to outlet adjacent to the cliffs where the rock base would help to minimize scour. The total notch area was approximately 3,600 square feet, with stockpiled material placed northwest of the excavated area. The notch was created between the Carmel Lagoon and Pacific Ocean, with a "plug" of sand blocking flow out of the lagoon, with the beginning of the notch approximately 0.5 feet above lagoon water levels. The "plug" was intended to act as a weakened barrier to flow, which would breach easily as water levels rose within the lagoon, prior to flooding of the neighboring facilities and residences. On January 11, water levels rose and penetrated the plug and the lagoon berm breached, resulting in a drop in lagoon water levels by approximately 5.5 feet.

In accordance with Service recommendations, surveys for California red-legged frogs and their egg masses were conducted in accessible areas of the lagoon prior to the emergency management activities and after the breaching event occurred. No California red-legged frogs or egg masses were observed prior to or following emergency management activities.

Proposed Interim Sandbar Management Plan

The ISMP has been developed by the County of Monterey and National Marine Fisheries Service (NMFS) and involves managing the lagoon, including winter openings and summer closures, in the most efficient manner that reduces potential impacts to both wildlife and property. The MCRMA is proposing to implement the interim plan while a long-term solution to flooding is developed, designed, funded, and constructed. The ISMP includes the following activities: 1) the stockpile and placement of sandbags along the State Parks boundary and homes along the north end of the lagoon; 2) mechanical management of the lagoon sandbar to prevent flooding of homes, which would be implemented in a manner that would minimize impacts to native wildlife and their habitat; and 3) re-establishment of the sandbar at the conclusion of the rainy season to promote habitat for native fish and wildlife.

Sandbar management activities would take place once one of the following conditions is met: 1) mobilization of the construction crew and equipment would occur when the lagoon water level reaches a surface elevation of 12.77 feet (ft), with channel excavation on the sandbar beginning when lagoon water levels reach a surface elevation of 13.27 ft; 2) when the rate of increase in water level in the lagoon indicates less than six hours until the water level reaches a surface elevation of 12.77 ft, or when the Carmel River flows reach or exceed approximately 200 cubic ft per second (CFS); or 3) when monitoring indicates that wave overtopping would begin to rapidly increase the lagoon water level and increase the sandbar elevation.

Channel excavation would be accomplished with the use of a bulldozer or excavator to dig a channel through the sandbar to the south, and would result in excavation of approximately 222 cubic yards of sand. The channel would be excavated to an approximate elevation of 12.74 ft. Breaching of the plug would be completed by a crew using hand tools to avoid the use of heavy equipment in water. Based on water surface elevation monitoring following management activities and in coordination with the Service and National Oceanic and Atmospheric Administration (NOAA), sandbar closure would take place to ensure the optimization of wildlife habitat. This would be based on existing and forecasted conditions that take into account sand availability, wave action, and precipitation.

Through robust surveys and monitoring as outlined and required in this biological opinion, we intend to gather information that would allow the Service to determine if take of the California red-legged frog occurs due to annual management of the Carmel Lagoon. The Service believes that the following conservation measures are necessary in order to gain accurate information on presence or absence of the species within the project area. The following measures were agreed to by the MCRMA and Corps.

Conservation Measures

1. Prior to sandbar management activities a qualified biologist will conduct an Employee Education Program for the construction crew. The biologist will meet with the construction crew at the project site prior to construction to educate the construction crew on the following: 1) a review of the project boundaries including staging areas and access routes; 2) the special-status species that may be present, their habitat, and proper identification; 3) the specific conservation measures that will be incorporated into the construction effort; 4) the general provisions and protections afforded by the Service; and 5) the proper procedures to follow if a special-status animal is encountered within the construction area.

2. Within three days prior to sandbar management activities, a Service-approved biologist will survey all accessible areas of the lagoon and river channel (immediately upstream from the lagoon) for California red-legged frog adults, juveniles, tadpoles, and egg masses. Surveys should focus on areas that are likely to be dewatered or isolated as a result of the lowering of surface water levels. Seine nets should be used to the maximum extent practicable in all accessible areas. If the use of seine nets is not feasible due to access issues or excessive vegetation, dip-netting will be conducted. Surveying of areas that are likely to become completely dewatered or isolated should attempt to achieve 100 percent coverage in order to determine presence or absence of the species. Areas that are not likely to be dewatered or isolated will be selectively surveyed with seine nets and/or dip nets in order to determine presence or absence of the species. The locations of California red-legged frog adults, juveniles, tadpoles, and egg masses will be recorded on a GPS and/or flagged.

3. At locations where tadpoles or egg masses are found during pre-activity surveys, concurrent with and immediately following management activities, these locations will be monitored daily to determine if tadpoles or egg masses are subject to stranding or desiccation. Tadpoles and egg masses that are at risk of stranding or desiccation will be captured and relocated to a location not affected by project activities. Prior to winter project activities, the Service-approved biologist must submit to the Service the location(s) at which captured tadpoles and egg masses would be relocated. In accordance with the Reporting Requirements section of this document, the Service-approved biologist will submit to the Service a report including: pre- and post-monitoring photos, areas surveyed with seines and/or dipnets, locations where any life stage of the California red-legged frog was observed, numbers of California red-legged frog or egg mass translocations, and all observed take.

4. Subsequent to management activities and in coordination with the Service and NMFS, sandbar closure would take place to ensure the optimization of wildlife habitat. This would be based on existing and forecasted conditions that take into account sand availability, wave action, and precipitation.

5. Cleaning and refueling of equipment and vehicles will occur only within designated staging areas. No maintenance, cleaning or fueling of equipment will occur within wetland or riparian areas and, at a minimum, all equipment and vehicles will be checked and maintained on a daily basis to ensure proper operation and to avoid potential leaks or spills. All construction-related spills of hazardous materials within or adjacent to the construction site will be cleaned up immediately. Spill prevention and clean-up materials will be onsite at all times during construction. Construction materials/debris will be stored within the designated staging areas. No debris, soil, silt, sand, oil, petroleum products, cement, concrete, or washings will be allowed to enter into, or be placed where they may be washed by rainfall or runoff, into wetland or riparian habitats.

6. All trash that may attract predators will be properly contained, removed from the construction site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

7. All bullfrogs observed during project activities will be captured and eliminated, to the maximum extent practicable.

ANALYTICAL FRAMEWORK FOR THE JEOPARDY AND ADVERSE MODIFICATION DETERMINATIONS

Jeopardy Determination

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

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

The jeopardy analysis in this biological opinion places an emphasis on consideration of the rangewide survival and recovery needs of the California red-legged frog and the role of the action area in the survival and recovery of this species as the context for evaluation of the

significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Adverse Modification Determination

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. A final rule revising the regulatory definition of "destruction or adverse modification" was published on February 11, 2016 (81 FR 7214). The final rule became effective on March 14, 2016. The revised definition states:

> "Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features."

The "destruction or adverse modification" analysis in this biological opinion relies on four components: (1) the Status of Critical Habitat, which describes the rangewide condition of the critical habitat in terms of the key components (i.e., essential habitat features, primary constituent elements, or physical and biological features) that provide for the conservation of the listed species, the factors responsible for that condition, and the intended value of the critical habitat overall for the conservation/recovery of the listed species; (2) the Environmental Baseline, which analyzes the condition of the critical habitat in the action area, the factors responsible for that condition, and the value of the critical habitat in the action area for the conservation/recovery of the listed species; (3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated and interdependent activities on the key components of critical habitat that provide for the conservation of the listed species, and how those impacts are likely to influence the conservation value of the affected critical habitat; and (4) Cumulative Effects, which evaluate the effects of future non-Federal activities that are reasonably certain to occur in the action area on the key components of critical habitat that provide for the conservation of the listed species and how those impacts are likely to influence the conservation value of the affected critical habitat.

For purposes of making the "destruction or adverse modification" determination, the Service evaluates if the effects of the proposed Federal action, taken together with cumulative effects, are likely to impair or preclude the capacity of critical habitat in the action area to serve its intended conservation function to an extent that appreciably diminishes the rangewide value of critical habitat for the conservation of the listed species. The key to making that finding is understanding the value (i.e., the role) of the critical habitat in the action area for the conservation/recovery of the listed species based on the Environmental Baseline analysis.

STATUS OF THE SPECIES

The California red-legged frog was federally listed as threatened on May 23, 1996 (Service 1996). A recovery plan was published by the Service in 2002. Critical habitat for the California red-legged frog was first designated on March 13, 2001 (Service 2001). On March 17, 2010, the Service published a revised critical habitat designation for California red-legged frog (Service 2010). The final rule for designation of critical habitat describes 48 separate units, encompassing approximately 1,636,609 acres, in 27 counties in California. In addition, the Service finalized a special rule pursuant to section 4(d) of the Act, which authorizes take of the species in association with existing routine ranching activities (Service 2006).

Until recently, the California red-legged frog was recognized as two conspecific subspecies, *Rana aurora aurora* and *Rana aurora draytonii*. Recent genetic analysis of the *Rana aurora/draytonii* complex has concluded that the two *Rana aurora* subspecies are in fact separate species (Shaffer et al. 2004, Frost et al. 2006, as cited in Service 2009); this change in nomenclature was acknowledged in the final rule for the revised designation of critical habitat for the California red-legged frog (Service 2010).

The California red-legged frog 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 overland 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 et al. 2003). Most of these overland movements occur at night. In another study conducted at the Point Reyes National Seashore and Golden Gate National Recreation Area in Marin County, radio-tagged frogs often moved in a straight line between breeding and upland habitats up to 1.7 miles, again with no apparent regard to topography. Some of these frogs remained at breeding ponds all year, while others moved to non-breeding areas, even when the breeding sites retained water (Fellers and Kleeman 2007).

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.

Female California red-legged frogs deposit egg masses on emergent vegetation so that the masses float on the surface of the water. Egg masses contain about 2,000 to 5,000 moderate-sized (0.08 to 0.11 inch in diameter), dark reddish-brown eggs. Embryos hatch 6 to 14 days after fertilization. Larvae generally undergo metamorphosis 3.5 to 7 months after hatching, but some larvae overwinter and metamorphose after up to 13 months (Fellers et al. 2001). 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 12 years. Juveniles can 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 for adults, although vertebrates such as Pacific treefrogs (*Hyla regilla*) and California mice (*Peromyscus californicus*) can constitute over half of the prey mass eaten by larger frogs (Hayes and Tennant 1985). Larvae eat algae and detritus.

The historical range of the California red-legged frog extended coastally from southern Mendocino County and inland from the vicinity of Redding, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985, Storer 1925). The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this subspecies was found throughout the Central Valley and Sierra Nevada foothills. California red-legged frogs have been documented in 46 counties in California, but now remain in only 238 streams or drainages in 31 counties in California and one region in Baja California, Mexico (Grismer 2002, Fidenci 2004, Smith and Krofta 2005, Service 2009).

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. Other causes of declines in amphibian species have been studied by Davidson et al. (2001). Results indicate that ozone depletion resulting in an increase in ultraviolet radiation is a potential factor of amphibian decline. In addition, upwind pesticides and/or other chemicals used for agricultural purposes have been identified as factors in a number of declining California amphibians.

An additional threat affecting amphibians worldwide is the chytrid fungus *Batrachochytrium dendrobatidis*. *Batrachochytrium dendrobatidis* causes chytridiomycosis, a skin disease that has been found to disrupt osmoregulatory function in the skin of amphibians, resulting in an imbalance of electrolytes and death (Voyles et al. 2009). Chytridiomycosis in amphibians may be marked by deformed mouthparts in tadpoles, wherein most infected tadpoles will die at metamorphosis (Service 2002). Infected boreal toads (*Bufo boreas boreas*) showed few clinical signs of the disease but many appeared weak or lethargic, exhibited excessive shedding of skin and were reluctant to flee at the approach of humans (U.S. Geological Service 2000, as cited in Service 2002). Chytrid fungi are widespread in the environment where they act as decomposers of keratin, chitin, cellulose, and other plant material, and are known parasites of fungi, algae,

higher plants, protozoa, invertebrates, and most recently in vertebrates. Chytrid fungi reproduce asexually by means of minute, fragile, motile spores, and are probably spread directly from amphibian to amphibian in water. These fungi most likely move from one water source to another on migrating amphibians, water birds, or flying insects (Daszak et al. 1999 as cited in Service 2002).

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

The chytrid fungus *Batrachochytrium dendrobatidis* is now recognized for its ability to spread quickly through amphibian populations and infect numerous species, causing high rates of mortality, and persisting at low host densities (Voyles et al. 2009). These recent findings validate the importance of taking precautions to prevent the spread of chytrid fungus or any disease agent into and/or between amphibian populations. It is unknown if California red-legged frogs within the project area have been or are currently infected with chytrid fungus.

Recovery Objectives

The 2002 recovery plan for the California red-legged frog (Service 2002) states that the goal of recovery efforts is to reduce threats and improve the population status of the California red-legged frog sufficiently to warrant delisting. The recovery plan describes a strategy for delisting, which includes (1) protecting known populations and reestablishing historical populations; (2) protecting suitable habitat, corridors, and core areas; (3) developing and implementing management plans for preserved habitat, occupied watersheds, and core areas; (4) developing land use guidelines; (5) gathering biological and ecological data necessary for conservation of the species; (6) monitoring existing populations and conducting surveys for new populations; and (7) establishing an outreach program. This species will be considered for delisting when:

1. Suitable habitats within all core areas are protected and/or managed for California red-legged frogs in perpetuity, and the ecological integrity of these areas is not threatened by adverse anthropogenic habitat modification (including indirect effects of upstream/downstream land uses);

2. Existing populations throughout the range are stable (i.e., reproductive rates allow for long-term viability without human intervention). Population status will be documented through establishment and implementation of a scientifically acceptable population monitoring program for at least a 15-year period, which is approximately 4 to 5

generations of the California red-legged frog. This 15-year period will preferably include an average precipitation cycle;

3. Populations are geographically distributed in a manner that allows for the continued existence of viable metapopulations despite fluctuations in the status of individual populations (i.e., when populations are stable or increasing at each core area);

4. The species is successfully reestablished in portions of its historic range such that at least one reestablished population is stable/increasing at each core area where California red-legged frog are currently absent; and,

5. The amount of additional habitat needed for population connectivity, recolonization, and dispersal has been determined, protected, and managed for California red-legged frogs.

The recovery plan identifies eight recovery units, which are based on the assumption that various regional areas of the species' range are essential to its survival and recovery. The recovery status of this species is considered within the smaller scale of recovery units as opposed to the overall range. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit.

Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for long-term viability within existing populations. This management strategy will allow for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs. The action area is within the Central Coast Recovery Unit and the Carmel River – Santa Lucia Core Area; these are described in the recovery plan for the California red-legged frog (Service 2002).

Critical Habitat for the California Red-legged Frog

In accordance with section 3(5)(A)(i) of the Act and Federal regulations at 50 CFR 424.12, in determining which areas to designate as critical habitat, we identified the physical or biological features essential to the conservation of the species, the Primary Constituent Elements (PCEs), which may require special management considerations or protection. Because not all life-history functions require all the PCEs, not all areas designated as critical habitat will contain all the PCEs. Based on our current knowledge of the life-history, biology, and ecology of the California red-legged frog, we determined the California red-legged frog's PCEs to consist of: (1) aquatic breeding habitat; (2) aquatic non-breeding habitat; (3) upland habitat, and (4) dispersal habitat. Detailed descriptions of these PCEs can be found in the final rule (75 FR 12816). The following is a brief summary of the PCEs:

1. Aquatic breeding habitat consists of standing bodies of fresh water (with salinities less than 4.5 parts per thousand), including natural and manmade (stock) ponds, slow moving streams or pools within streams and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years.

2. Aquatic non-breeding habitat consists of the freshwater habitats as described for aquatic breeding habitat but which may or may not hold water long enough for the subspecies to complete the aquatic portion of its lifecycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal habitat of juvenile and adult California red-legged frogs.

3. Upland habitat consists of upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of one mile in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the California red-legged frog. Upland habitat should include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter.

4. Dispersal habitat consists of accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within one mile of each other, and that support movement between such sites. Dispersal habitat includes various natural habitats, and altered habitats such as agricultural fields, that do not contain barriers (e.g., heavily traveled roads without bridges or culverts) to dispersal. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, nor does it include large lakes or reservoirs over 50 acres in size, or other areas that do not contain those features identified in PCE 1, 2, or 3 as essential to the conservation of the species.

The Service designated critical habitat for the California red-legged frog on 119,492 acres of land in northern Monterey County (Service 2010). This critical habitat unit is named "MNT-2, Carmel River" (MNT-2), and represents approximately 7 percent (in area) of the total critical habitat designated throughout the range of the species. This critical habitat unit is described in detail in the Environmental Baseline section of this document.

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02). For the purposes of this biological opinion, and based on the information provided by the applicant, we consider the action area to include all areas where people and equipment would be working within the Carmel River State Beach, the Carmel Lagoon, which includes all lagoon areas that are inundated from river flows west of the Highway

1 Bridge (up to approximately 118 acres), and areas where California red-legged frogs would be relocated.

Habitat Characteristics and Existing Conditions in the Action Area

The action area lies primarily within lands owned by the California Department of Parks and Recreation. Other property owners include the Carmel Area Wastewater District, Carmel Unified School District, the City of Carmel-by-the-Sea, and Mission Ranch. Habitat types within the action area include emergent marsh, estuarine, riparian, and coastal dune. Breaching dynamics directly affect lagoon water surface elevations, which in turn determine aquatic habitat volume and area, as well as water quality. The lagoon is generally not connected to the ocean during times of low streamflow as a barrier beach is annually replenished by ocean tides. During the summer water surface elevations are relatively low, while in the fall, prior to opening, lagoon water surface elevations often quickly increase due to increases in streamflow and wave over-topping of the barrier beach.

Depending on existing conditions throughout the year and subsequent water surface elevations and water quality, all areas within the action area, except for coastal dune habitat, provides either dispersal, upland, non-breeding aquatic, or breeding aquatic habitat for the California red-legged frog.

Status of the California Red-legged Frog in the Action Area

Based on the California Natural Diversity Data Base (CNDDB) (2016), there is one recorded observation of the California red-legged frog within the action area. There have been multiple unconfirmed observations of tadpoles and adults in the south arm of the lagoon, indicating that the species utilizes the lagoon for breeding (H.T.H. 2013). There are no known occurrences of the species in the lagoon or wetlands along the northern portion of the Carmel Lagoon, or adjacent to the beach management area. Based on the CNDDB and confirmed observations, California red-legged frogs exhibit a wide distribution throughout the Carmel River watershed.

We cannot accurately determine the exact number of California red-legged frogs that may be present in the action area due to seasonal fluctuations in habitat suitability and availability. Additionally, timing of breaching activities typically takes place at the onset of potential early breeding activities of the California red-legged frog in the Carmel River watershed. Seasonal fluctuations in habitat suitability primarily involve dynamic changes in salinity levels in the lagoon. Salinity levels typically begin to rise during the fall and winter as wave overtopping of the lagoon and seepage through the barrier beach occurs. Salinity gradients drive other water quality parameters such as temperature and dissolved oxygen. When salinity concentrations are high, lagoons stratify and the saline layer sinks to the bottom. Dissolved oxygen concentrations decrease, and high salinity promotes head absorption, raising temperatures (Balance Hydrologics, Inc. 2014). If salinity levels or water temperatures achieve levels that the California red-legged frog cannot tolerate, egg hatching and/or survival of tadpoles would not be successful. Additionally, the Carmel Lagoon is utilized by a diverse range of predators,

primarily including fish, birds, and bullfrogs, which prey opportunistically on all life stages of the California red-legged frog. These dynamic conditions provide a complex framework from which the determination of the presence or absence of California red-legged frogs must be made.

Despite fluctuations in aquatic quantity and quality, California red-legged juveniles and adults can be expected to occur throughout the action area in the Carmel Lagoon, as their mobility facilitates unimpeded movement throughout the Carmel River corridor. Additionally, the possibility of successful California red-legged frog breeding in the Carmel Lagoon exists; although, this is determined on a year to year basis depending on existing habitat conditions.

Surveys conducted for California red-legged frogs during the previously implemented Emergency Sandbar Management resulted in no observations of the species; therefore, no observed take occurred.

Recovery

The action area is within the Central Coast Recovery Unit and the Carmel River – Santa Lucia Core Area; these are described in the recovery plan for the California red-legged frog (Service 2002). As stated in the recovery plan, the species occurs in the Carmel River watershed and most of its tributaries within the Central Coast Recovery Unit. Core areas, which are distributed throughout portions of the historic and current range, represent a system of areas that, when protected and managed for California red-legged frogs, will allow for long-term viability of existing populations and reestablishment of populations within the historic range. The Carmel River – Santa Lucia Core Area is acknowledged in the recovery plan as a currently occupied source population that provides connectivity between populations.

Threats to California red-legged frogs in the Central Coast Recovery Unit include agriculture, livestock grazing and dairies, mining, non-native species, recreation, timber extraction, urbanization, and water management/diversions/reservoirs, and the recovery status at the time the recovery plan was created was listed as high. Conservation needs identified for the Carmel River – Santa Lucia Core Area include protecting existing populations and restoring the Carmel River watershed.

Status of California Red-Legged Frog Critical Habitat in the Action Area

The action area for the proposed project is within designated critical habitat for the California red-legged frog (Service 2010), and comprises a small portion of the approximately 119,492 acres of critical habitat unit MNT-2. However, the Carmel River is the central aquatic feature in unit MNT-2, and is vital to the continued existence of California red-legged frogs within MNT-2. MNT-2 is the largest critical habitat unit within Monterey County. MNT-2 is mapped from occurrence records at the time of listing and subsequent to the time of listing. MNT-2 contains the following features that are essential for the conservation of the subspecies: aquatic habitat for breeding and non-breeding activities, and upland habitat for foraging and dispersal activities. MNT-2 is occupied by the California red-legged frog and its designation is intended to prevent

further fragmentation of habitat in this portion of the subspecies' range. MNT-2 contains permanent and ephemeral aquatic habitats suitable for breeding and accessible upland areas for dispersal, shelter, and food. The unit consists of approximately 26,098 acres of Federal land, 374 acres of State land, and approximately 91,647 acres of private land. Threats that may require special management in this unit include removal and alteration of aquatic and upland habitat due to urbanization, dewatering of aquatic habitat due to water pumping and water diversions, and predation by non-native species.

Upland habitats bordering the Carmel Lagoon provide suitable upland and/or dispersal habitat for the species. Aquatic habitats potentially suitable for breeding and non-breeding activities in the action area include all areas within the Carmel Lagoon that are inundated from river flows (up to approximately 118 acres).

EFFECTS OF THE ACTION

This analysis takes into account incorporation of the proposed conservation measures as part of the project. Implementation of the conservation measures are intended to identify the majority of California red-legged frog individuals and egg masses that could be affected by project activities. The Service believes that incorporation of the proposed conservation measures would reduce potential adverse effects to the species.

Lagoon management activities could adversely affect tadpoles and egg masses of the California red-legged frog, if present within the action area. Due to their mobility, we expect adult and juvenile California red-legged frogs to move from areas that may be affected by reduced water levels, seeking cover in nearby available aquatic or upland habitats. We cannot anticipate the number of California red-legged frogs that may occur within the action area due to dynamic changes in suitability of aquatic habitat, primarily due to fluctuations in salinity levels and numbers and types of predators. We anticipate potential adverse effects primarily to consist of stranding or desiccation of tadpoles or egg masses, or tadpoles being flushed out to sea, if present. Overall, we expect few injuries or mortalities, because a robust survey, capture, and relocation plan will be implemented by Service-approved biologists.

To avoid and minimize impacts to California red-legged frogs, the Corps proposes to employ a qualified biologist to conduct surveys of the action area prior to and during project activities. The potential exists for construction personnel to injure or kill individuals that may disperse into the action area during project activities. Such effects would be minimized by conducting awareness training sessions for workers, which will inform them of the presence and protected status of the species and the measures that are being implemented to protect them during project activities.

Lagoon management activities could result in adverse effects to California red-legged frogs from the removal of or disturbance of habitats that provide areas for foraging and sheltering. Based on water surface elevation monitoring following management activities and in coordination with the

Service and NMFS, sandbar closure would take place to ensure the optimization of wildlife habitat, minimizing long-term effects.

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 (*Procyon lotor*) are attracted to trash and also prey opportunistically on the species. This potential impact will be reduced or avoided by careful control of waste products at all work sites.

The capture and handling of California red-legged frogs may result in injury or mortality. Injury or mortality of California red-legged frogs may occur as a result of improper handling, containment, or transport of individuals. These effects would be reduced or prevented by having Service-approved biologists conduct all capture and translocation activities. Mortality following translocation may also occur given the uncertainty of survival of California red-legged frogs in unfamiliar sites. This effect will be minimized by having Service-approved biologists identify suitable habitat at translocation sites for California red-legged frogs. Additionally, the translocation of individuals will likely reduce the level of mortality that otherwise would occur if California red-legged frogs were not removed.

Accidental spills of hazardous materials or careless fueling or oiling of vehicles or equipment could degrade aquatic habitat to a degree where California red-legged frogs are killed. Implementation of best management practices will assist in reducing these potential effects.

In summary, we cannot predict with certainty the numbers of California red-legged frogs that would be adversely affected within the action area. We anticipate that impacts to the species could result primarily from tadpole and egg stranding, if breeding occurs prior to project activities. Monitoring and translocation efforts during project activities will minimize the number of California red-legged frog adults, tadpoles, and eggs injured or killed as a result of project activities.

Effects on Recovery of the California red-legged frog

As stated above in the recovery plan, the recovery status of the California red-legged frog is considered within the scale of the recovery unit as opposed to the overall range. The action area lies within the Central Coast Recovery Unit and the Carmel River – Santa Lucia Core Area. The proposed Project would not increase the threats currently impacting the California red-legged frog in this recovery unit or core area as identified in the recovery plan and described above, or preclude the Service's ability to implement recommended recovery actions (Service 2002). Project impacts would occur in an area that is subject to dynamic changes in water quantity and quality which restrict its value in terms of being a reliable source of California red-legged frog breeding habitat. Project impacts are not anticipated to affect the capacity of this core area to provide connectivity between populations. Thus, the proposed Project is not expected to substantially affect the conservation of the California red-legged frog within the Central Coast Recovery Unit.

Summary of Effects to the California led-legged frog

Based on the relatively small project area, temporary duration of impacts, and conservation measures to be implemented by the Corps and NMFS, we conclude that few, if any, California red-legged frogs are likely to be killed or injured as a result of project activities. The proposed project would affect a small number of California red-legged frogs, if any occur within the project area. We anticipate no long-term effects to the overall population, breeding and reproductive capacity, and recovery of the California red-legged frog due to the Corps' proposed activities.

Critical Habitat for the California red-legged frog

Critical Habitat Unit MNT-2 for the California red-legged frog comprises approximately 119,492 acres, of which approximately 118 acres are in the action area. The action area represents a small portion (0.10 percent) of critical habitat Unit MNT-2, and only 0.007 percent of the 1,636,609 acres of total critical habitat throughout the range of the California red-legged frog. All aquatic habitats and associated riparian and uplands in and around the action area provide one or more of the PCEs. The action area includes aquatic breeding or non-breeding habitat (PCEs 1 and 2) totaling up to 118 acres. The proposed action will affect the critical habitat's primary constituent elements by temporarily affecting the quality and quantity of aquatic habitat (PCEs 1 and 2). We expect a reduction in the maximum amount of potential aquatic habitat available in the Carmel River Lagoon, which would last throughout implementation of the ISMP. These temporary impacts are not anticipated to result in long-term adverse effects to the primary constituent elements of critical habitat for the California red-legged frog in or near the action area.

Summary of effects to California red-legged frog critical habitat

We do not anticipate long-term adverse effects to primary constituent elements of critical habitat for the California red-legged frog as a result of the proposed action. The Carmel River Lagoon system is dynamic, indicating that potential effects from project activities would last only for a short time until river flows replenish lagoon water levels. Any potential direct and indirect effects of the project would be temporary, affect a small proportion of critical habitat Unit MNT-2, would be minimized by implementation of the proposed conservation measures, and would not appreciably diminish the conservation function of critical habitat for the species.

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 unaware of any non-Federal actions that are reasonably certain to occur and are likely to adversely affect the California red-legged frog in the action area.

CONCLUSION

The regulatory definition of "to jeopardize the continued existence of the species" focuses on assessing the effects of the proposed action on the reproduction, numbers, and distribution, and their effect on the survival and recovery of the species being considered in the biological opinion. For that reason, we have used those aspects of the status of the California red-legged frog and its critical habitat as the basis to assess the overall effect of the proposed action on this species.

Reproduction

Impacts to aquatic habitat from project activities could injure or kill tadpoles or egg masses of the California red-legged frog if present within the project area. Project activities could temporarily degrade or reduce aquatic habitat. The loss of reproductive individuals, eggs and larvae, and breeding habitat could temporarily lower the reproductive capacity of the local population. However, we expect such impacts to be small due to the temporary nature of impacts and the conservation measures the Corps has proposed to protect California red-legged frogs, which include surveying for and relocating California red-legged frogs from the action area. Therefore, we expect the proposed project to result in minimal impacts to breeding California red-legged frogs and conclude that the project will not appreciably reduce the reproduction of the species locally or rangewide.

Numbers

A small number of California red-legged frogs may be injured or killed as a result of project activities and capture and relocation efforts. The California red-legged frog is known to occur within and around the action area and may be present during project activities. However, the temporary nature of project impacts and the conservation measures proposed by the Corps will minimize the number of California red-legged frogs lost as a result of project activities. The Service anticipates that the potential loss of a few individuals would be balanced by the species prolific breeding potential within the Carmel Valley. Therefore, we conclude that loss of a small number of individuals, if any, which may occur during the proposed project, would not appreciably reduce the local or rangewide population of the California red-legged frog.

Distribution

The proposed project could injure or kill a small number of California red-legged frogs, but the Corps has proposed measures to minimize the risk of adverse effects. Project activities will temporarily impact the quantity and quality of breeding and/or non-breeding aquatic habitat, however, lagoon closure, in coordination with the Service and NOAA, will ensure aquatic conditions are optimized for the benefit of native wildlife, including the California red-legged frog. The dynamic nature of Carmel Lagoon breaching events, in regards to timing, results in unreliable breeding habitat for the California red-legged frog. However, due to the mobile nature of the species along the Carmel River channel, we anticipate that California red-legged frogs

would continue to colonize the Carmel Lagoon on an annual basis. The project would affect a small proportion of the California red-legged frog habitat available in the vicinity and a very small proportion of the habitat available in the species' geographic range. Therefore, we conclude that the project will not appreciably reduce the distribution of the California red-legged frog at the local or rangewide level.

Recovery

The action area lies within the Central Coast Recovery Unit and the Carmel River – Santa Lucia Core Area for the California red-legged frog. The action area includes suitable habitat but project impacts to California red-legged frogs would be temporary and minimized by the proposed conservation measures. The proposed project would not increase the threats currently impacting the California red-legged frog in this recovery unit or core area, would result in no appreciable change in reproduction, population numbers and distribution, and would not preclude the Service's ability to implement any of the measures identified in the recovery plan for the species. Therefore, we conclude that the proposed project would not appreciably reduce the likelihood of recovery of the California red-legged frog.

Conclusion for the California red-legged frog

After reviewing the current status of the California red-legged frog, the environmental baseline for the action area, the effects of the previously conducted Emergency Sandbar Management, the effects of the proposed Interim Sandbar Management Plan, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog, because:

1. Surveys for California red-legged frogs during and following the previously conducted Emergency Sandbar Management did not observe any California red-legged frog individuals;

2. The project would not appreciably reduce reproduction of the species either locally or rangewide;

3. The project would affect a very small number of individuals, and would not appreciably reduce numbers or distribution of the California red-legged frog at the local level or rangewide; and,

4. The project would not cause any effects that would preclude our ability to recover the species.

California red-legged frog Critical Habitat

We expect proposed project activities to result in temporary impacts to a small area of California red-legged frog critical habitat Unit MNT-2. The action area within the lagoon (up to approximately 118 acres) represents only 0.10 percent of Unit MNT-2 and 0.007 percent of total designated critical habitat for the species.

The action area includes breeding or non-breeding aquatic habitat (PCE's 1 and 2) totaling up to 118 acres. The proposed action will affect the critical habitat's primary constituent elements by temporarily affecting the quality and quantity of aquatic habitat (PCEs 1 and 2). These temporary impacts are not anticipated to result in long-term adverse effects to the primary constituent elements of critical habitat for the California red-legged frog in or near the action area. We anticipate that the short-term nature of project effects would be countered by the strategic closing of the sandbar, resulting in the enhancement of PCEs 1 and 2 within this critical habitat unit.

Conclusion for California red-legged frog Critical Habitat

After reviewing the current status of the critical habitat of the California red-legged frog, the environmental baseline of critical habitat for the action area, the effects of the previously conducted Emergency Sandbar Management, the effects of the proposed Interim Sandbar Management Plan on critical habitat, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to result in the destruction or adverse modification of critical habitat of the California red-legged frog, because:

1. The project would have temporary effects on PCE's 1 and 2 within a small portion of critical habitat Unit MNT-2; and,

2. The overall function and conservation value of MNT-2 would not be appreciably reduced by the project locally or in critical habitat Unit MNT-2.

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 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. 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.

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.

The measures described below are non-discretionary and the Corps must make these binding conditions of any authorizations or contracts associated with the proposed action, 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 require the project proponents to adhere to the terms and conditions of this incidental take statement through enforceable terms that are added to the authorization, 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)].

All California red-legged frogs in the action area may be subject to take as a result of project activities. Take could occur in the form of capture during relocation activities and in the form of harassment, harm, injury, or death as a result of breaching activities, if they are accidentally injured during capture and relocation. Take could also occur as a result of sandbar management activities resulting in the stranding of tadpoles or egg masses, or tadpoles being flushed out to sea. Incidental take of California red-legged frogs will be difficult to detect because of their small body size; therefore, finding a dead or injured specimen may be unlikely. California red-legged frogs injured or killed during translocation efforts are likely to be observed; however, mortality from other sources, including the indirect effects of translocation, would be difficult to observe. The observed number of California red-legged frogs taken may be lower than the actual number taken.

Despite the fact that we cannot identify the precise number of California red-legged frogs that may be captured, injured, or killed, we must provide a threshold at which consultation must be reinitiated. Based upon the avoidance and minimization measures proposed by the Corps and the occurrences of the species in the action area, we anticipate the following levels of take:

> If more than 2 California red-legged frog adults or juveniles, 200 tadpoles, or 3 egg masses are captured and relocated during project activities, any operations causing such take should cease pending reinitiation of consultation.
>
> If more than 1 California red-legged frog adult or juvenile, 10 tadpoles, or 1 egg mass is found dead or injured during project activities, any operations causing such take should cease pending reinitiation of consultation.

REASONABLE AND PRUDENT MEASURES

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

1. Biologists must be authorized by the Service before they survey for, capture, and move California red-legged frogs in the action area.

2. Biologists who handle California red-legged frogs must ensure that their activities do not transmit diseases or pathogens.

3. The Corps must ensure that effects to the California red-legged frog are minimized during project implementation and that take during project activities is commensurate with our analysis.

Our evaluation of the effects of the proposed action includes consideration of the measures to minimize the adverse effects of the proposed action on the California red-legged frog that were provided by the Corps and repeated in the Description of the Proposed Action portion of this biological opinion. Any subsequent changes in these measures proposed by the Corps may constitute a modification of the proposed action and may warrant reinitiation of formal consultation, as specified at 50 CFR 402.16. These reasonable and prudent measures are intended to supplement the protective measures that were proposed by the Corps as part of the proposed action.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Corps must ensure that project contractors comply 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 term and condition implements reasonable and prudent measure 1:

   The Corps must condition its authorization to require the project proponent to request our written approval of any biologist it wishes to employ to capture, move, and survey for California red-legged frogs in the action area. The request must be in writing and be received by the Service at least 15 days prior to the onset of activities.

2. The following term and condition implements reasonable and prudent measure 2:

   To ensure that diseases are not conveyed between work sites by the Service-approved biologists, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force must be followed at all times. A copy of the code of practice is enclosed. The Service-approved biologist may substitute a bleach solution (0.5 to 1.0 cup

of bleach to 1.0 gallon of water) for the ethanol solution. Care must be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.

3. The following term and condition implements reasonable and prudent measure 3:

To ensure effects to the California red-legged frog are minimized in the action area, the Corps, MCRMA, and its contractors must follow and implement all of the minimization measures specified above under the Description of the Proposed Action. If any of these measures are not followed at any time, work must immediately cease and the Service will be promptly contacted to determine the best procedure to continue minimizing adverse effects to the species.

REPORTING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)(3), the Corps must report the progress of the action and its impact on the species to the Service as specified in this incidental take statement to the Service's Ventura Fish and Wildlife Office (2493 Portola Road, Suite B, Ventura, California 93003) within 60 days following completion of the proposed project. The report must describe all activities that were conducted under this biological opinion, including activities that were described in the proposed action and required under the terms and conditions, and discuss any problems that were encountered in implementing conservation measures or terms and conditions and any other pertinent information. The report must also include the number of California red-legged frogs found, captured and relocated from the project area, and killed or injured during project activities; the dates and times of capture, mortality, or injury; specific locations of capture, mortality, or injury; approximate size and life stage of individuals; and a description and map of relocation sites.

The Service recognizes that the MCRMA may author the report(s) described above. However, the Corps must review the report(s) to determine compliance with the Terms and Conditions of this biological opinion prior to submitting them to the Service. Upon completion of the project, the Corps must ensure that all observations of federally listed species to the California Department of Fish and Wildlife for inclusion in the California Natural Diversity Database.

DISPOSITION OF DEAD OR INJURED SPECIMENS

Within 3 days of locating any dead or injured California red-legged frogs, you must notify the Ventura Fish and Wildlife Office by telephone (805) 644-1766. 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. The Corps must endeavor to place the remains of California red-legged frogs with educational or research institutions holding the appropriate State and Federal

permits. Arrangements regarding proper disposition of potential museum specimens must be made between the Corps and the institution as soon as possible after receipt of this biological opinion.

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. We recommend the following conservation measure to promote recovery of the tidewater goby (*Eucyclogobius newberryi*).

> We recommend that the project proponent closely analyze seine and dip-net hauls during California red-legged frog surveys implemented during this project in order to determine if the tidewater goby is found utilizing the Carmel Lagoon.

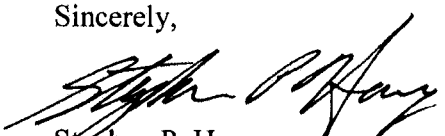
The Service requests notification of the implementation of any conservation recommendations so we may be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats.

REINITIATION NOTICE

This concludes formal consultation on the Corps' proposed authorization of the Interim Sandbar Management Plan Project and Emergency Sandbar Management. As provided at 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 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 regarding this biological opinion, please contact Chad Mitcham of my staff at (805) 644-1766 extension 53328, or by electronic mail at chad_mitcham@fws.gov.

Sincerely,



Stephen P. Henry
Field Supervisor

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The Declining Amphibian Populations Task Force Fieldwork Code of Practice

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires, and all other surfaces. Rinse cleaned items with sterilized (e.g., boiled or treated) water before leaving each work site.

2. Boots, nets, traps, and other types of equipment used in the aquatic environment should then be scrubbed with 70 percent ethanol solution and rinsed clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond. wetland, or riparian area.

3. In remote locations, clean all equipment with 70 percent ethanol or a bleach solution, and rinse with sterile water upon return to the lab or "base camp." Elsewhere, when washing machine facilities are available, remove nets from poles and wash in a protective mesh laundry bag with bleach on the "delicates" cycle.

4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable gloves and change them between handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean them as directed above and store separately at the end of each field day.

5. When amphibians are collected, ensure that animals from different sites are kept separately and take great care to avoid indirect contact (e.g., via handling, reuse of containers) between them or with other captive animals. Isolation from unsterilized plants or soils which have been taken from other sites is also essential. Always use disinfected and disposable husbandry equipment.

6. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.

7. Used cleaning materials and fluids should be disposed of safely and, if necessary, taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags.

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

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

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