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:
81440-2010-F-0021

March 12, 2010

Chuck Cesena
Senior Environmental Planner
California Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401-5415

Subject: Biological Opinion for the Highway 246 Passing Lanes Project, Santa Barbara County, California (8-8-10-F-13)

Dear Mr. Cesena:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed Highway 246 Passing Lanes Project in Santa Barbara County and its effects on the federally endangered California tiger salamander (*Ambystoma californiense*) and its critical habitat, and the federally threatened California red-legged frog (*Rana aurora draytonii*), in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Your October 5, 2009, request for formal consultation was received on October 15, 2009.

You also determined that the proposed action is not likely to adversely affect vernal pool fairy shrimp (*Branchinecta lynchi*). Surveys were negative during the first season of sampling. The pools were not accessible for a second season of surveys as the water level did not rise into the right-of-way in 2009. Although 2-year protocol surveys were not conducted at these locations, a long season of surveys was completed during the first season with negative results. Due to the perennial nature of the aquatic habitat, the irregular occurrence of ponded water within the area proposed for construction, the disturbed nature of this area within the Caltrans right-of-way, and the negative survey result, we concur with your determination.
This biological opinion is based on information which accompanied your October 5, 2009, request for consultation, including the biological assessment (Caltrans 2009). A complete administrative record of this consultation is available at the Ventura Fish and Wildlife Office.

CONSULTATION HISTORY

Caltrans and the Service coordinated on the implementation of a drift fence study for the California tiger salamander and the need for, and design of, amphibian undercrossing structures on multiple occasions between 2007 and 2009. The following is a synopsis of key events:

- October 25, 2007, Caltrans biologist Virginia Strohl and (former) Service biologist Katherine Drexhage, discussed performing protocol level surveys for California tiger salamander and California red-legged frog. Ms. Drexhage recommended protocol-level surveys for California tiger salamander and California red-legged.

- November 14, 2007, Virginia Strohl and Katherine Drexhage reviewed the study design for the California tiger salamander upland studies.

- March 25, 2008, Virginia Strohl and Katherine Drexhage discussed results of the first year California tiger salamander studies and agreed that upland studies for the second year would not need to be repeated at locations where California tiger salamanders were detected during first year studies.

- May 11, 2008, Caltrans and their biological consultant, John Storrer, met with Service biologist Steve Kirkland at the proposed project site to review the results of the biological studies to date and the current project design.

- May 14 – Oct 8, 2008, Virginia Strohl and Steve Kirkland coordinated on various occasions to design a feasible and effective amphibian undercrossing design for the portion of the proposed action that would be constructed adjacent to the largest of the known California tiger salamander breeding ponds (Sites 5 and 6) within the action area.

- April 2, 2009, Steve Kirkland, John Storrer and Virginia Strohl discussed results of the second season of California tiger salamander upland drift fence surveys and potential minimization measures, including undercrossings, for the proposed project.

- April 23, 2009, Virginia Strohl, Steve Kirkland and John Storrer met at the project site to review the proposed undercrossing locations.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Caltrans would create two sets of passing lanes in each direction (east and west) along Highway 246 (highway). The passing lanes would vary in length from 1.4 to 2.2 miles. The proposed project would begin at 0.3-mile west of Purisima Road at post mile (PM) 11.8 and extend 0.2-mile east of Domingos Road at PM 20.9; a distance of approximately 9 miles. On the western end of the proposed project a passing lane would extend in the eastbound direction from Cebada Canyon Road to Tularosa Road, and in the westbound direction from Hapgood Road to Tularosa Road. On the eastern end of the proposed project a passing lane would extend in the eastbound direction from Santa Rita Road to Campbell Road.

The existing highway has one lane in both the eastbound westbound direction. Each lane is 12 feet wide with 8 foot-wide shoulders, for a total paved width of 40 feet. The proposed action would add 24 feet of pavement to the existing highway in the form of two 12 foot-wide passing lanes. The highway would be 64 feet wide in those areas where the passing lanes are proposed.

The proposed action would also include intersection improvements consisting of left-turn channelizations where the following County roads intersect the highway: Tularosa Road, Hapgood Road, Campbell Road, and Drum Canyon/Mail Road. To accommodate the left-turn channelization at Drum Canyon/Mail Road, Caltrans would widen the Santa Rosa Creek Bridge. At Tularosa Road, Highway 246 would be realigned to the south and the profile of the road would be lowered to reduce uphill grades and increase sight distance. There would be a two-way continuous left-turn channelization lane beginning at Hapgood Road and ending west of Campbell Road. The existing class III bicycle route would be maintained.

Caltrans anticipates construction on the proposed action would start in October 2012 and would take approximately 350 work days to complete. No nighttime work is planned.

Caltrans has proposed to include the following avoidance and minimization measures in the proposed action:

1. Only Service-approved biologists will participate in activities associated with the capture, handling, and monitoring of the California tiger salamander and California red-legged frog;

2. Ground disturbance will not begin until written approval is received from the Service that biologist(s) are qualified to conduct the requested activities;

3. Before any activities begin, the Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the California tiger salamander and California red-legged frog and their habitats, the project-specific measures that will be implemented to conserve the California tiger salamander and California red-legged frog, and the boundaries within which the project may be accomplished;

4. Based on their survey results, Caltrans anticipates that a larger number of California tiger salamanders (both juveniles and adults) will disperse from sites 3, 4, 5, and 6. Metamorphosed California tiger salamanders may also attempt to enter the construction area from Sites 5 and 6. Exclusionary fencing will be installed at these locations to stop California tiger salamanders and California red-legged frogs from entering the construction area. Exclusionary fencing will be installed along both sides of the highway at the limits of the construction zone near breeding ponds at these sites. The exclusionary fencing may need to be relocated along the north side of the highway at sites 5 and 6 as

the ephemeral pond(s) fills and recedes. Installation of the fencing will be monitored by the Service-approved biologist;

5. Construction activities will not occur within the breeding pond(s) at sites 5 and 6 when the pond is flooded into the construction zone;

6. Prior to vegetation removal and grading activities, the Service-approved biologist will survey for and relocate any California tiger salamanders found within upland habitat;

7. A yet to be determined percentage of small mammal burrows in potential California tiger salamander upland habitat will be hand-excavated prior to construction. Any California tiger salamanders found during hand excavation will be relocated to the nearest suitable habitat outside the construction area. A rodent-burrow hand-excavation plan, including a proposed percentage of burrows to be surveyed, will be submitted to the Service for approval prior to commencement of excavation activities;

8. The Service-approved biologist will be present at the work site until all attempts to relocate California tiger salamanders are complete, workers have received their training, and disturbance of habitat is completed. After this time, Caltrans will designate a person to monitor on-site compliance with all minimization measures;

9. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas;

10. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet from riparian and pond habitat. Measures will be taken to avoid situations where a spill could drain directly toward aquatic habitat;

11. The project will be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Invasive, exotic plants will be controlled to the maximum extent practicable. To ensure the amphibian undercrossings are not blocked by this native re-vegetation component, the openings to the undercrossings will only be seeded with annual plant species for the first year following construction. Caltrans anticipates local native wetland vegetation will establish itself in these locations over time;

12. The number of access routes, size of staging areas, and total area of construction activity will be limited to the minimum necessary to achieve the project goal. Environmental Sensitive Areas (ESAs) will be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize adverse affects to the California tiger salamander and California red-legged frog;

13. To control sedimentation during and after project implementation, Caltrans will implement Best Management Practices outlined in any authorizations or permits, issued for the Highway 246 Passing Lanes Project, under the authorities of the Clean Water Act. If Best Management Practices are found to be ineffective, Caltrans will remedy the situation immediately, in consultation with the Service;

14. To ensure that diseases are not conveyed between work sites by the Service-approved biologist, the Fieldwork Code of Practice developed by the Declining Amphibian Populations Task Force will be followed at all times;

15. At Sites 5 and 6, Caltrans will construct amphibian undercrossing structures under the entire facility for the length of road adjacent to both breeding ponds. This will consist of 6-foot diameter, round, pre-cast concrete culverts, spaced 150 feet apart, a 60-foot long viaduct. The culverts would be sunk below grade and filled with approximately one foot of earthen fill. The 60-foot long viaduct will be constructed adjacent to site 5, where most adult salamanders were detected during upland surveys. The viaduct will be split (open) between the north and south-bound lanes. An amphibian barrier would be constructed between the culvert openings and viaduct, to guide animals into the undercrossings, and prohibit them from climbing onto the highway. This barrier will consist of a 14-inch high concrete (or similar material) wall with an overhanging lip. Additional undercrossing structures consisting of a series of three 6-foot diameter, round, pre-cast concrete culverts, all spaced approximately 150 feet apart, will be installed at sites 3 and 4;

16. Caltrans will monitor the use and effectiveness of the amphibian undercrossings for up to five years. The details of the monitoring will be identified in an Undercrossing Monitoring Plan submitted to, and approved by the Service prior to the completion of the undercrossing structures.

17. To minimize impacts to the breeding ponds at sites 5 and 6, the slopes on the north side of the proposed highway alignment will be maintained at their current 2:1 slope, instead of Caltrans' standard 4:1 slope;

18. Caltrans will designate the willow thicket within the Caltrans right-of-way on the north side of the highway, and east of Hapgood Road where California tiger salamanders have been documented, as an Environmentally Sensitive Area (ESA), and will avoid this area during construction;

19. Caltrans will design or modify structures such as curbs, drainage grades, and steep drainage ditches to allow movement of California tiger salamanders, in those areas of the proposed project where California tiger salamanders have been documented.

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 describes the range-wide condition of the California tiger salamander and California red-legged frog, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the California tiger salamander and California red-legged frog in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the California tiger salamander and California red-legged frog; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the California tiger salamander and California red-legged frog; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the California tiger salamander and 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 tiger salamander and California red-legged frog, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the California tiger salamander and California red-legged frog in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of the California tiger salamander and California red-legged frog and the role of the action area in the survival and recovery of the California tiger salamander and California red-legged frog 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

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

In accordance with policy and regulation, the adverse modification analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which describes the range-wide condition of designated critical habitat for the California tiger salamander in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the critical habitat overall; (2) the *Environmental Baseline*, which analyzes the condition of the critical habitat in the action area, the factors responsible for that condition,

and the recovery role of the critical habitat in the action area; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated and interdependent activities on the PCEs and how that will influence the recovery role of the affected critical habitat units; and (4) *Cumulative Effects*, which evaluates the effects of future non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed federal action on the critical habitat of the California tiger salamander are evaluated in the context of the range-wide condition of the critical habitat, taking into account any cumulative effects, to determine if the critical habitat range-wide would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the California tiger salamander.

The analysis in this biological opinion places an emphasis on using the intended range-wide recovery function of critical habitat for the California tiger salamander and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the adverse modification determination.

STATUS OF THE SPECIES

California Tiger Salamander

The California tiger salamander in Santa Barbara County was emergency listed as endangered on January 19, 2000 (65 Federal Register (FR) 3096). On September 21, 2000, we listed the Santa Barbara County Distinct Population Segment (DPS) of the California tiger salamander as endangered (65 FR 57242).

On May 23, 2003, the Service published a proposed rule to list the Central California population of California tiger salamander and to reclassify the Santa Barbara County and Sonoma County populations from endangered to threatened (68 FR 28648). A final rule listing the California tiger salamander as a single threatened species rangewide was published on August 4, 2004 (69 FR 47212). As a result of that action, California tiger salamanders in Santa Barbara County were listed as threatened and no longer considered to represent a distinct population segment. In addition, concurrently with the rule listing the California tiger salamander as threatened, the Service promulgated a special rule pursuant to section 4(d) of the Act exempting from the Act's prohibitions take of California tiger salamanders as a result of "routine ranching activities." However, on August 19, 2005 the U.S. District Court for the Eastern District of California in *Center For Biological Diversity v. U.S. Fish and Wildlife Service*, No. C04-04324 WHA, held that the reclassification of the Santa Barbara County and Sonoma County populations from endangered to threatened was arbitrary and capricious and should be vacated and remanded to the Service. Under this ruling, California tiger salamanders in Santa Barbara County currently

remain separately listed and classified as endangered. Additionally, the 4(d) rule (which can apply only to threatened species) does not apply to the Santa Barbara County California tiger salamander.

This species is currently known from 60 extant breeding ponds in northern Santa Barbara County. The range extends from Santa Rita Valley northward to Santa Maria Valley. The California tiger salamander is a large, stocky, terrestrial salamander with a broad, rounded snout. Adults may reach a total length of 8.2 inches, with males generally averaging about 8 inches and females averaging 6.8 inches. For both sexes, the average snout-to-vent length is approximately 3.6 inches. The small eyes have black irises and protrude from the head. Coloration consists of white or pale yellow spots or bars on a black background on the back and sides and a yellow belly. Males can be distinguished from females, especially during the breeding season, by their swollen cloacae (a common chamber into which the intestinal, urinary, and reproductive canals discharge), more developed tail fins, and larger overall size (Stebbins 1962; Loredo and Van Vuren 1996).

The California tiger salamander inhabits low elevation vernal pools and seasonal ponds and associated grassland, oak savannah, and coastal scrub plant communities of the Santa Maria, Los Alamos, and Santa Rita valleys in northwestern Santa Barbara County. Although California tiger salamanders are adapted to natural vernal pools and ponds, they also use manmade or modified ephemeral and permanent ponds. Some ponds may not fill to capacity or fill at all in years of below-normal precipitation.

California tiger salamanders prefer open grassland over areas of continuous woody vegetation. The ponds available to salamanders for breeding have been degraded and reduced in number, and the associated upland habitats inhabited by salamanders for most of their life cycle have been degraded and reduced in area through agriculture, urbanization, building of roads and highways, and chemical applications.

Although California tiger salamanders spend most of their lives in underground burrows in upland habitats, their reproduction is tied to aquatic habitats. Historically, they bred primarily in natural vernal pools, but they have been able to breed successfully in human-made stock ponds created for ranching and agricultural purposes. Migrations to and from breeding ponds occur during the rainy season (November to May), with the greatest activity from December to February (Storer 1925; Loredo and Van Vuren 1996; Trenham et al. 2000). Breeding migrations are strongly associated with rainfall events (Loredo and Van Vuren 1996; Trenham et al. 2000). Breeding may occur in one major bout or during a prolonged period of several months, depending on the rainfall pattern (Loredo and Van Vuren 1996; Trenham et al. 2000).

Lifetime reproductive success for other tiger salamanders is typically low, with fewer than 30 metamorphic juveniles per breeding female. Trenham et al. (2000) found even lower numbers for California tiger salamanders, with roughly 12 lifetime metamorphic offspring per breeding female. In part, this low reproductive success is due to the extended time it takes for California

tiger salamanders to reach sexual maturity; most do not breed until 4 or 5 years of age. While individuals may survive for more than 10 years, fewer than 50 percent survive to breed more than once (Trenham et al. 2000). Combined with low survivorship of metamorphosed individuals (in some populations, less than 5 percent of marked juveniles survive to become breeding adults (Trenham et al. 2000), reproductive output in most years is not sufficient to maintain populations. This trend suggests that the species requires occasional "boom" breeding events to prevent extirpation (temporary or permanent loss of the species from a particular habitat) or extinction (Trenham et al. 2000). With such low recruitment, isolated subpopulations can decline greatly as a result of unusual, randomly occurring natural events and human-caused factors that reduce breeding success and individual survival.

Movements made by California tiger salamanders can be grouped into two main categories: (1) breeding migration; and (2) interpond dispersal. Breeding migration is the movement of salamanders between a pond and the surrounding upland habitat. After metamorphosis, juveniles move away from breeding ponds into the surrounding uplands, where they live for several years (on average, 4 years). Upon reaching sexual maturity, most individuals return to their natal/birth pond to breed, while 20 percent disperse to other ponds (Trenham et al. 2001). Following breeding, adult California tiger salamanders return to upland habitats, where they may live for one or more years before breeding again (Trenham et al. 2000).

California tiger salamanders are known to travel large distances from breeding ponds into upland habitats. They have been recorded up to 1.2 miles from breeding ponds (Sweet, pers. comm. 1998). California tiger salamanders are known to travel between breeding ponds; one study found that 20 to 25 percent of the individuals captured at one pond were recaptured later at ponds approximately 1,900 and 2,200 feet away (Trenham et al. 2001).

Evidence suggests that juvenile California tiger salamanders disperse farther into upland habitats than adults. A trapping study conducted in Solano County during winter 2002–2003 found that juveniles used upland habitats farther from breeding ponds than adults (Trenham and Shaffer 2005). More juvenile salamanders were captured at distances of 328, 656, and 1,312 feet from a breeding pond than at 164 feet. Large numbers (approximately 20 percent of total captures) were found 1,312 feet from a breeding pond.

Trapping efforts in 2003 through 2004 detected juvenile California tiger salamanders at even farther distances, with a large proportion of the total salamanders caught at 2,297 feet from the breeding pond. Most juveniles captured, even those at 2,297 feet, were still moving away from ponds (Fitzpatrick, pers. comm. 2004). These data show that many California tiger salamanders travel far while still in the juvenile stage. Post-breeding movements away from breeding ponds by adults appear to be much smaller. During post-breeding emigration, radio-equipped adult California tiger salamanders were tracked to burrows between 62 and 813 feet from their breeding ponds (Trenham 2001). These reduced movements may be due to adult California tiger salamanders having depleted physical reserves following breeding.

The spatial distribution of California tiger salamanders in the uplands surrounding breeding ponds is a key issue for conservation planning. Although logic would suggest that California tiger salamanders will move only short distances if abundant burrows are found near their ponds, this is not the case. In the aforementioned study in Solano County, while abundant burrows are available near the pond, a nearly equal number of California tiger salamanders were captured at 328, 656, and 1,312 feet from the breeding pond (Trenham and Shaffer 2005). Similarly, Trenham (2001) tracked salamanders to burrows up to 813 feet from a breeding pond, although burrows were abundant at distances nearer to the pond. In addition, rather than staying in a single burrow, most individuals used several successive burrows at increasing distances from the pond.

The primary cause of the decline of the Santa Barbara County population of California tiger salamanders is the loss, degradation, and fragmentation of habitat due to human activities. Several other factors, including competition from introduced species, disturbance due to oil production, and over-grazing may have negative effects on California tiger salamanders and their aquatic and upland habitats. Non-native or introduced predators of California tiger salamanders include bullfrogs, mosquito fish, Louisiana red swamp crayfish (*Procambarus clarkii*), catfish (*Ictalurus* sp.), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), fathead minnow (*Pimephales promelas*) and other introduced fish (Shaffer et al. 1993, Graf 1993; Gamradt and Kats 1996, Anderson 1968, Morey and Guinn 1992).

Various nonnative subspecies of the tiger salamander within the *Ambystoma tigrinum* complex have been imported into California for use as fish bait. The introduced salamanders may out-compete the California tiger salamanders. Tiger salamanders at the Lompoc Federal Penitentiary grounds are non-native salamanders. Recent discovery of hybridization with native California tiger salamanders and non-native salamanders was documented in the range of the Santa Barbara County DPS of California tiger salamanders (Hunt 2009). Introduced species can have negative effects on California tiger salamander populations through hybridization (Shaffer et al. 1993), and introduced salamanders may interbreed with the natives to create hybrids. Riley et al. (2003) have shown that the hybrids are able to breed with California tiger salamanders, resulting in the loss of pure native salamanders (i.e., genetic loss). In addition, non-native tiger salamanders and hybrids pose a direct predation threat to California tiger salamanders and other native species in pond ecosystems (Ryan et al. 2009).

A deformity-causing infection, possibly caused by a parasite in the presence of other factors, has affected pond-breeding amphibians at known California tiger salamander breeding sites. This same infection has become widespread among amphibian populations in Minnesota and poses the threat of becoming widespread in California.

Reduction of ground squirrel populations to low levels through widespread rodent control programs may reduce availability of burrows and adversely affect the California tiger salamander. Poison typically used on ground squirrels is likely to have a disproportionately adverse effect on California tiger salamanders, which are smaller than the target species and have

permeable skins. Use of pesticides, such as methoprene, in mosquito abatement may have an indirect adverse effect on the California tiger salamander by reducing the availability of prey. Automobiles and off-road vehicles can kill migrating California tiger salamanders, and contaminated runoff from roads, highways and agriculture can degrade California tiger salamander breeding habitat.

The most imminent threat to the continued survival of the Santa Barbara County DPS of the California tiger salamander is the loss and fragmentation of habitat. Federal, State, and local laws have not been sufficient to prevent past and ongoing losses of California tiger salamander habitat during a formal permitting process. Urban development and agricultural conversion continue to threaten the species. All but one metapopulation is under the threat of development or agricultural conversion. Three of the six metapopulations of California tiger salamanders in Santa Barbara County face on-going and future threats from agricultural conversion and/or urban development (West Santa Maria/Orcutt, East Santa Maria, and Santa Rita Valley). Depending on how land is zoned and how much land is affected by an individual action, some of these conversions do not require Santa Barbara County permits and, therefore, may not consider impacts to California tiger salamanders or their habitat.

Critical habitat for the California tiger salamander

On November 24, 2004, we designated critical habitat for the Santa Barbara County DPS of California tiger salamander in six disparate areas of Santa Barbara County (69 FR 68568). A total of 11,180 acres in six separate units is designated as critical habitat for the California tiger salamander in Santa Barbara County. Most of the project area is located within critical habitat unit 1 (Western Santa Maria/Orcutt) (69 FR 68568). Per the final critical habitat designation, the principal biological or physical constituent elements (i.e., primary constituent elements or PCEs) within the defined area that are essential to the conservation of the species include:

1. Standing bodies of fresh water, including natural and man-made (e.g., stock) ponds, vernal pools, and dune ponds, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a sufficient length of time (i.e., 12 weeks) necessary for the species to complete the aquatic portion of its life cycle;

2. Barrier-free uplands adjacent to breeding ponds that contain small mammal burrows. Small mammals are essential in creating the underground habitat that adult California tiger salamanders depend upon for food, shelter, and protection from the elements and predation; and

3. Upland areas between breeding locations (PCE 1) and areas with small mammal burrows (PCE 2) that allow for dispersal among such sites (69 FR 68584).

California red-legged frog

The California red-legged frog was federally listed as threatened on May 23, 1996 (61 FR 25813). Critical habitat for the California red-legged frog was first designated on March 13, 2001 (66 FR 14625). On November 6, 2002, the United States District Court for the District of Columbia set aside the designation and ordered the Service to publish a new final rule with respect to the designation of critical habitat for the California red-legged frog (*Home Builders Association of Northern California et al. versus Gale A Norton, Secretary of the Department of Interior et al.* Civil Action No. 01-1291 (RJL) U.S. District Court, District of Columbia.). The Service published a new proposed rule to designate critical habitat for the California red-legged frog on April 13, 2004 (69 FR 19620). Critical habitat for the California red-legged frog was re-designated on April 13, 2006 (71 FR 19244). On September 16, 2008, the Service proposed a new, revised rule to designate 1.8 million acres as critical habitat for the California red-legged frog, an area that is 300 percent larger than the 2006 designation for the subspecies (73 FR 53492). The project site is not within designated or proposed critical habitat and it will not be discussed further. The Service completed a recovery plan for the subspecies in 2002 (Service 2002).

Detailed information on the biology of California red-legged frogs can be found in Storer (1925), Stebbins (2003), and Jennings et al. (1992). This species is the largest native frog in the western United States, ranging from 1.5 to 5.1 inches long. 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 long and are dark brown and yellow with dark spots.

The California red-legged frog uses a variety of habitat types, including various aquatic systems, riparian, and upland habitats. The diet of California red-legged frogs is highly variable. Tadpoles eat algae and a variety of organic detritus (Jennings et al. 1992). Hayes and Tennant (1985) found invertebrates to be the most common food item of adults. Feeding activity probably occurs along the shoreline and on the surface of the water. Hayes and Tennant (1985) found juveniles to be active diurnally and nocturnally, whereas adults were largely nocturnal.

California red-legged frogs breed from November through March; earlier breeding has been recorded in southern localities (Storer 1925). Males appear at breeding sites from 2 to 4 weeks before females (Storer 1925). 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 (Hayes and Miyamoto 1984). Egg masses contain about 2,000 to 5,000 moderately- sized (0.08 to 0.11 inch in diameter), dark reddish brown eggs (Storer 1925, Jennings and Hayes 1985). Eggs hatch in 6 to 14 days (Storer 1925). Larvae undergo metamorphosis between 3.5 to 7 months after hatching (Storer 1925, Wright and Wright 1949).

Sexual maturity can be attained at 2 years of age by males and 3 years of age by females and is usually reached at 3 to 4 years of age (Jennings and Hayes 1985); adults may live 8 to 10 years (Jennings et al. 1992) although the average life span is considered to be much lower.

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. California red-legged frogs breed in aquatic habitats. Eggs, larvae, transformed juveniles, and adults also have been found in ephemeral creeks and drainages and in ponds that do not have riparian vegetation. California red-legged frogs frequently breed in artificial impoundments such as stock ponds, if conditions are appropriate. Although California red-legged frogs successfully breed in streams and riparian systems, high seasonal flows and cold temperatures in streams often make these sites risky environments for eggs and tadpoles. The importance of riparian vegetation for this species is not well understood. When riparian vegetation is present, California red-legged frogs spend considerable time resting and feeding in it; the moisture and camouflage provided by the riparian plant community likely provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding. 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.

Juvenile and adult California red-legged frogs may disperse long distances from breeding sites throughout the year. They can be encountered living within streams at distances exceeding 1.8 miles from the nearest breeding site, and have been found up to 400 feet from water in adjacent dense riparian vegetation (Bulger et al. 2003). Some California red-legged frogs have moved long distances over land between water sources during winter rains. Adult California red-legged frogs have been documented to move more than 2 miles in northern Santa Cruz County "without apparent regard to topography, vegetation type, or riparian corridors" (Bulger et al. 2003). Most of these overland movements occur at night. These individual frogs were observed to make long-distance movements that are straight-line, point-to-point migrations over variable upland terrain rather than using riparian corridors for movement between habitats. For the California red-legged frog, suitable habitat is considered to include all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture (61 FR 25813).

California red-legged frogs have been found at elevations that range from sea level to about 5,000 feet. In the Sierra Nevada Mountains, California red-legged frogs typically occur below 4,000 feet in elevation (61 FR 25813).

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).

The most secure aggregations of California red-legged frogs are found in aquatic sites that support substantial riparian and aquatic vegetation and lack non-native predators. Over-harvesting, habitat loss, non-native species introduction, and urban encroachment are the primary factors that have negatively affected the California red-legged frog throughout its range (Jennings and Hayes 1985, Hayes and Jennings 1988). Habitat loss and degradation, combined with over-exploitation and introduction of exotic predators, were important factors in the decline of the California red-legged frog in the early to mid-1900s. Continuing threats to the California red-legged frog include direct habitat loss due to stream alteration and loss of aquatic habitat, indirect effects of expanding urbanization, and competition or predation from non-native species including the bullfrog, catfish (*Ictalurus* spp.), bass (*Micropterus* spp.), mosquito fish, red swamp crayfish, and signal crayfish. Chytrid fungus (*Batrachochytrium dendrobatidis*) is a waterborne fungus that can decimate amphibian populations, and is considered a threat to California red-legged frog populations.

Although the presence of California red-legged frogs is correlated with still water deeper than approximately 1.6 ft, riparian shrubbery, and emergent vegetation (Jennings and Hayes 1985), there are numerous locations in the species' historical range where these elements are well represented yet California red-legged frogs appear to be absent. The cause of local extirpations does not appear to be restricted solely to loss of aquatic habitat. The most likely causes of local extirpation are thought to be changes in faunal composition of aquatic ecosystems (i.e., the introduction of non-native predators and competitors) and landscape-scale disturbances that disrupt California red-legged frog population processes, such as dispersal and colonization. The introduction of contaminants or changes in water temperature may also play a role in local extirpations. These changes may also promote the spread of predators, competitors, parasites, and diseases.

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 *Code of Federal Regulations* 402.02). For the purposes of this biological opinion, we consider the action area to include all areas where people and equipment would be working or staging.

Based on the information contained in the biological assessment (Caltrans 2009), we have identified the action area as follows: the entire 9.1 miles of the highway where construction is proposed, extending out perpendicularly from the existing pavement to the boundary of the Caltrans right-of-way will include the areas where California tiger salamanders and California red-legged frogs are likely to be directly and indirectly affected by the proposed action.

California Tiger Salamander

Caltrans (2008) documented California tiger salamanders at five locations within the action area. California tiger salamander studies consisted of two seasons of upland drift fence surveys, and aquatic sampling. Aquatic sampling was only conducted at three of the sites due to restricted access onto private property where breeding ponds were located. The five sites where California tiger salamanders were found are described below:

Site 3:
Site 3 is approximately 1,400 feet west of the intersection of Tularosa Road and Highway 246, south of the highway. A 0.40-acre stock pond is located on the nearby hillside, about 375 feet south of the Caltrans right-of-way. The pond appears to have been constructed by blocking a natural drainage with an earthen dam. The pond is surrounded by coast live oak woodland, coastal sage scrub, and annual grassland. An area directly north of the highway is vegetated with annual grassland, coastal sage scrub and coast live oak.
Two California tiger salamanders, one adult and one juvenile, were captured in the upland drift fence at this site during the second season of surveys. Aquatic surveys were not conducted at this site. This is a new location for the Santa Rita Valley population and it is highly likely that California tiger salamanders breed in the pond.

Site 4:
Site 4 is along the south side of the highway, approximately 535 feet east of the intersection of Tularosa Road and Highway 246, south of 246. A large 2.60-acre irrigation pond is located about 300 feet south of the highway. A shallow 0.49-acre depression, between the northern berm of the irrigation pond and the highway embankment also sustained surface water for several weeks in 2008. The larger pond is used as a reservoir for irrigation. Large cultivated fields lie east of the ponds. Coast live oak woodland and coast sage scrub cover the hillsides to the west. A low-density residential development with intact stands of coastal sage scrub and annual grassland is present north of Highway 246.
Three adult California tiger salamanders were captured in the upland drift fence at this site during the first season of surveys. Upland surveys were not conducted at this site during the second year of the study. Aquatic surveys were not conducted at this site. The capture of adult California tiger salamanders indicates that breeding occurs at this pond and that it is a new breeding location for the Santa Rita Valley population

Site 5 and 6:
The known breeding ponds at Sites 5 and 6 are northeast of the junction of Highway 246 and Campbell Road. They are natural, ephemeral pools, small portions of which have been modified (deepened) to increase storage capacity. The western and eastern ponds are respectively 6.41 and 3.78 acres in size at maximum capacity. The two sites are contiguous. The two ponds are separated topographically, but surface runoff connecting them was observed at maximum inundation on January 28, 2008. The southern margins of the both ponds extend into the Caltrans right-of-way when at full capacity.

A little over half of the immediate hillsides surrounding the ponds are used for dry farming or irrigated row crops. Beyond the area under cultivation, vegetation consists of annual grassland, coastal sage scrub, and coast love oak woodland. Conditions south of the highway are very similar.

Five adult California tiger salamanders were captured in the upland drift fence at this site during the first season of surveys. Upland surveys were not conducted at this site during the second year of the study. Drift fencing was installed on both sides of the road, not only to reaffirm the presence of California tiger salamanders, but to also determine where California tiger salamanders were attempting to cross the highway. The results were then used to design adequate undercrossings for the proposed project. Four of the five locations where California tiger salamanders were captured were almost evenly spaced and adjacent to the pond at Site 5. One California tiger salamander was captured adjacent to Site 6. An adult male was captured on the south side of the drift fence, opposite the pond at Site 5 early in the survey period. Because there were parallel lines of drift fence on both sides of the highway at Site 5, this capture suggests that the animal harbored within the Caltrans right-of-way.

Both ponds filled into the right of way in 2008 allowing aquatic surveys. California tiger salamander larvae were caught in both ponds. Prior to the surveys, California tiger salamander breeding at ponds 5 and 6 had been inferred from road-kill specimens collected on Highway 246 in the early 1980s (Santa Barbara Museum of Natural History specimen records). Additionally, approximately 100 juvenile California tiger salamanders were captured late in the second season of the survey effort. Because the drift fence was deconstructed at this time and only a few of the traps were still functional, the capture of approximately 100 individuals indicates a that substantial number of California tiger salamanders likely occupy this site. Capture of adult, juvenile, and larval California tiger salamanders at this location confirms that the population is extant.

Site 8:

The confirmed California tiger salamander breeding pond at Site 8 is about 200 feet north of Caltrans right-of-way and 500 feet west of Domingos Road. This feature is a 0.20-acre stock pond that was constructed by damming an ephemeral, southward-trending drainage. The hillsides surrounding the pond are vegetated with sparse scrub and annual grassland. The area is used as livestock pasture. Irrigated agricultural fields are present east and west of the pasture. Prevailing vegetation south of Highway 246 is similar, with horse pasture, annual grassland, and agricultural lands.

During the second year survey, 18 juvenile California tiger salamanders were captured during aquatic surveys, and one adult was captured in the upland drift fence at this site. Discovery of larval California tiger salamanders at this site confirms a new breeding location for the Santa Rita Valley population.

Critical Habitat for the California tiger salamander

The proposed action would occur within critical habitat unit 6: Santa Rita Valley. This 638-ac unit constitutes the southernmost locality for California tiger salamanders in Santa Barbara

County. The unit is bisected by Highway 246, between the towns of Buellton and Lompoc. Five confirmed breeding locations are known to occur in the Santa Rita Valley. Three of these locations are new, and were found during surveys conducted in association with the proposed action. Two hydrobasins, at Site 5 and 6, are within 50 feet of one another and adjacent to Highway 246. These basins form the largest, and likely the most productive pond within critical habitat unit 6. During years with heavy rainfall, the two basins merge together to form one large pond. Adult California tiger salamanders were often found dead on roads after rain events during the 1980s. Three ponds on a neighboring property to the east and two ponds on the south side of Highway 246 likely formed a complex with this pond in the past. However, the ponds to the east were degraded by introduced fish and vineyards, while Highway 246 forms a substantial barrier to the southern ponds. The ponds south of Highway 246 have never been surveyed for California tiger salamanders. Although one landowner reported finding a California tiger salamander in a water pump in 2000, we have been unable to obtain permission to conduct surveys to confirm or refute this record. However, Caltrans conducted upland habitat drift fence surveys within their right-of-way and adjacent to all potential ponds in the action area and found three new breeding locations. This unit contains primary constituent elements essential to the conservation of the California tiger salamander because it constitutes the only known extant subpopulation remaining within the Santa Rita Valley. In addition, due to the numbers of salamanders found dead on the roads in the 1980s, the ponds were likely productive in the past. Highway 246 constitutes the main threat to the breeding location at Sites 5 and 6. Even without the proposed highway widening, the mortality by vehicular traffic and contaminated runoff entering the pond provide substantial threats to the breeding site (Service 2004).

California red-legged frog

Due to restrictive access issues onto private property, Caltrans was only able to conduct California red-legged frog surveys at three of the eight potential water bodies that could support breeding habitat within the action area. The existing highway likely impedes California red-legged frog dispersal, at least partially, between ponds in the Santa Rita Valley that are separated by the highway. One adult California red-legged frog was identified at the western limits of the pond at Site 5 under a willow tree during night time surveys. Sweet (pers. comm. 2007) has reported observations of California red-legged frog egg masses in the pond at Site 6.

EFFECTS OF THE ACTION

California tiger salamander and California red-legged frog

California tiger salamanders that are using small mammal burrows within the construction footprint of the proposed action as refugia, are likely to be destroyed during grading and ground compaction activities as burrows are crushed or as inhabitants of burrows are entombed. California red-legged are susceptible to the same threat. California tiger salamanders and California red-legged frogs may be killed or injured from inadvertent trampling by workers from foot traffic and operation of construction equipment during construction activities. Construction

activities may disturb California tiger salamanders or California red-legged frogs, causing them to leave their upland habitat increasing their exposure to desiccation and predation. California tiger salamanders and California red-legged frogs may also become trapped in open excavations or construction trenches, making them vulnerable to desiccation, starvation, and predation and may also be injured or killed if they fall into deep excavations. The proposed capture and relocation program should minimize these threats.

California tiger salamanders and California red-legged frogs could be injured or killed if they are improperly handled or contained during capture and relocation efforts. This threat should be minimized by Caltrans' use of Service-approved biologists with experience in the capture and relocation of these species.

The handling of California tiger salamanders and California red-legged frogs, or introducing equipment into their breeding ponds, can also result in the spread of chytrid fungus (*Batrachochytrium dendrobatidis*), a pathogen linked to global declines in amphibians. Chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks. Infected animals may spread the fungal spores to other ponds and streams before they die. Once a pond has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. Caltrans has proposed to implement the Fieldwork Code of Practice developed by the Declining Amphibian Populations Task Force to minimize this threat.

Relocated California red-legged frogs may be at risk of injury or death through predation or dehydration during an attempt to return to a work area from which they had been moved. This risk may increase with the distance of the relocation site from the work area; however, relocating individuals will minimize their risk of injury or mortality as a result of construction activities.

Two primary impacts to wildlife from highways are vehicle-caused mortality and habitat fragmentation. California tiger salamanders have been found dead on the existing two-lane highway (Sweet, pers. comm. 2007) and Caltrans (2008) trapped California tiger salamanders on both the north and south sides of the highway, within the Caltrans right-of-way during drift fence studies. This indicates that California tiger salamanders are currently able to make some successful crossing attempts across the existing two-lane highway. The proposed project would result in an additional 24 feet of pavement, and four lanes of vehicle traffic, California tiger salamanders and California red-legged frogs would have to negotiate in order to reach uplands and additional aquatic habitat on the south side of the highway. We anticipate these additional lane of traffic would result in fewer successful crossing attempts due to increased mortality of individuals from vehicle strikes (Foreman et al. 2003), subsequently increasing the barrier effect of the highway, and further limiting California tiger salamanders and California red-legged frogs from reaching upland habitat and potential breeding habitat south of the highway. Such increased habitat fragmentation could adversely affect the functionality of the California tiger salamander meta-population dynamic in this area, as isolated ponds that experience local

extirpation may not have a source from which to be re-populated This could lead to a reduction in the amount of genetic exchange within the population, causing long term problems such as inbreeding, or inbreeding depression that results in weak or sterile offspring as well as genetic drift (Foreman et al. 2003).

For most terrestrial as well as aquatic or semi-aquatic animals, the combination of a crossing structure, through or over a highway, combined with a barrier or diversion structure is the most effective measure reducing or eliminating vehicle strikes and habitat fragmentation (Dodd et al. 2004, Forman et al. 2003). The amphibian undercrossing structures proposed by Caltrans at Sites 3, 4, 5, and 6 were designed to include both of these attributes, and should be effective in reducing or eliminating direct mortalities of California tiger salamanders and California red-legged frogs, as well as fragmentation of their habitat, and minimizing the potential for reduced genetic exchange.

Additionally, the large number of culverts included in the design of the crossing structure at Sites 5 and 6, and to a lesser extent Sites 3 and 4, reduces amount of barrier wall necessary to keep animals from climbing up onto the highway. This in turn, should reduce the potential for increased predation on that has been observed at barrier fences where the target species have been concentrated (Reading 1989).

An increase in the permeability of the highway would be an improvement over the existing conditions where California tiger salamanders and California red-legged frogs occur, and road kill of California tiger salamanders has been documented, and is very likely to contribute toward the recovery of these species by reducing or eliminating direct mortality as a result of vehicle strikes, and increasing habitat connectivity and genetic exchange.

Sediment-laden storm water runoff during highway construction could also adversely affect water quality in breeding ponds. Erosion control measures and best management practices should minimize the potential for a decrease in the water quality of the breeding ponds.

Critical habitat for the California tiger salamander

The known breeding ponds at Sites 5 and 6 are located within critical habitat unit 6. A potential breeding pond at Site 7 also occurs within this critical habitat unit, although Caltrans (2009) did not detected California tiger salamanders during upland surveys. The temporary disturbance of approximately 0.069-acre of California tiger salamander breeding habitat would occur at Sites 5 and 6, and the loss of a small amount known and potential upland refugia and dispersal habitat would occur within the Caltrans right-of-way adjacent to Sites 5, 6, and 7 during construction. However, the proposed undercrossing structure that would be located at Sites 5 and 6, are designed to minimize the effects of the proposed action on critical habitat for the California tiger salamander. We anticipate this undercrossing structure will result in a more permeable highway, reducing, if not eliminating, the barrier effect of the existing highway and increase the

functionality of the Santa Rita Valley critical habitat unit. These, and the additional beneficial effects the undercrossings described previously, likely outweigh the loss of small amount of upland refugia.

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.

Caltrans (2009) reports that, based on information provided by the County, the only approved project on the County's list of projects under construction, and those approved without entitlement to begin construction, for the area defined by the Lompoc Community Plan is a residential development project (Bluffs at Mesa Oaks) consisting of 72 single-family homes and two duplexes, located east of Highway 1. Santa Barbara County is proposing to widen the shoulder of Purisima Road by five feet from Highway 246 to Highway 1. This area is outside the boundaries of designated critical habitat for the California tiger salamander and beyond the known dispersal distance of the California tiger salamander, from the nearest known and potential breeding ponds. A residential development could be built in this general area that could adversely affect the California red-legged frog; however, at this time we are unaware of any project details or the proximity of California red-legged frogs to the Bluffs at Mesa Oaks development.

A potential private left turn channelization project in the vicinity of Sites 5 and 6 was recently brought to our attention by the branch of Caltrans that issues encroachment permits for work in its right-of way. This potential project, if constructed, could overlap with the portion of the proposed action adjacent to Sites 5 and 6. We are unaware of any Federal nexus with this potential project, nor have we received an application for an incidental take permit pursuant to Section 10(a)(1)(b) of the Act. Therefore, we assume the proposed action will be constructed prior to this potential left-turn channelization project.

CONCLUSION

After reviewing the current status of California tiger salamander and California red-legged frog, the environmental baseline for the action area, the effects of the proposed Highway 246 Passing Lanes Project, and the cumulative effects, it is the Service's biological opinion that the Highway 246 Passing Lanes Project, as proposed, is not likely to jeopardize the continued existence of the California tiger salamander or California red-legged frog, and is not likely to destroy or adversely modify designated critical habitat for the California tiger salamander for the following reasons:

1. Caltrans has included numerous protective measures for the California tiger salamander and California red-legged frog including undercrossing structures, designed in

conjunction with the Service, that should reduce or eliminate direct vehicle-caused mortality, increase the permeability of the existing highway and improve habitat connectivity for these species, resulting in the reduction, or elimination of detrimental population-level effects such as a loss of genetic diversity;

2. Few California tiger salamanders are likely to be injured or killed;

3. No permanent loss of breeding habitat would occur;

4. Only a small amount of upland habitat would be lost, relative to the amount of available upland habitat; and

5. The proposed undercrossing structures would increase the functionality of the Santa Rita Valley critical habitat unit by reducing or eliminating the barrier effect of Highway 246.

INCIDENTAL TAKE STATEMENT

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

The measures described below are non-discretionary and Caltrans must include them as binding conditions of any contracts associated with the proposed action, for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans fails to require its' contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to its authorization, or contracts, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, Caltrans 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 tiger salamanders and California red-legged frogs found within the project area may be subject to take in the form of capture during relocation efforts. A subset of captured

California tiger salamanders and California red-legged frogs may experience a significant disruption of normal behavioral patterns to the point that reaches the level of harassment. California tiger salamanders and California red-legged frogs that remain in the project area may be subject to increased predation, crushed or entombed during construction activities, or be otherwise injured or killed.

We cannot determine the precise number of California tiger salamanders or California red-legged frogs that may killed, injured, harassed, or harmed as a result of the proposed action. Numbers and locations of California tiger salamanders and California red-legged frogs within a population vary from year to year. Incidental take of the California tiger salamander or the California red-legged frog would be difficult to detect because of their small body size and finding dead or injured specimens is unlikely. Take by predation would likely be impossible to detect. However, because Caltrans has proposed to use the protective measures described in the project description section of this document, we anticipate that few, if any, California red-legged frogs or California tiger salamanders are likely to be killed or injured during this work.

This biological opinion 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. Take that occurs outside of the action area or from any activity not described in this biological opinion is not exempted from the prohibitions against take described in section 9 of the Act.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the impacts of the incidental take of the California tiger salamander and California red-legged frog:

1. Caltrans must ensure that the level of incidental take during project implementation is commensurate with the analysis contained in this biological opinion.

2. Biologists must be authorized by the Service before they survey for, capture, and move California tiger salamanders and California red-legged frogs from the construction area.

3. Caltrans must implement additional measures to further minimize adverse effects associated with the proposed action.

TERMS AND CONDITIONS

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

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

   If more than one (1) California red-legged frog or one (1) California tiger salamander is found dead or injured, operations causing such take must cease and Caltrans must contact our office immediately so we can review the project activities to determine if additional protective measures are needed. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation. Other project activities, not resulting in incidental take, may continue during this review period, provided that all protective measures proposed by Caltrans and the terms and conditions of this biological opinion have been, and continue to be, implemented.

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

   a. Caltrans must request our approval of any biologists, or construction monitor, that they employ to conduct project activities associated with the California tiger salamander and California red-legged frog, pursuant to this biological opinion. Such requests must be in writing, and be received by the Ventura Fish and Wildlife Office at least 30 days prior to any such activities being conducted. Please be advised that possession of a 10(a)(1)(A) permit for the covered species does not substitute for the implementation of this measure. A section 10(a)(1)(A) recovery permit is limited to any act otherwise prohibited by section 9 of the Act for scientific purposes or to enhance the propagation or survival of the affected species. Capture and relocation of listed species can only be authorized through the incidental take anticipated by this biological opinion or through the section 10(a)(1)(B) incidental take permitting process. Authorization of Service-approved biologists is valid for this project only.

   b. California tiger salamanders that are removed from burrows and captured for relocation out of harm's way, must be placed at the entrance to the nearest suitable small mammal burrow, outside the construction area, or other suitable habitat as approved by the Service. This may vary depending on the time of year the animals are captured, local precipitation, and water level within breeding ponds.

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

   c. Prior to ground disturbance, Caltrans must ensure that construction contractors, and sub-contractors, identify staging and stockpile areas, or other locations where project-related spoils (i.e. soils, trees, rock, etc.) will be stockpiled or disposed of, and demonstrate to the Service that use of those areas will not result in take of California tiger salamanders or California red-legged frogs;

   d. Caltrans must ensure a Service-approved biologist or construction monitor checks the barrier fencing identified in Avoidance and Minimization Measure #4, in the

Description of the Proposed Action section of this biological opinion, daily, for the duration of time the fencing is in place. California tiger salamanders or California red-legged frogs that are found along the temporary barrier fencing must be relocated across the highway in the direction they were assumed to be moving. Animals moving from the ponds should be placed outside the fencing on the south side of the highway and animals moving towards the ponds should be placed on the north side of the fencing, and outside of the construction area.

REPORTING REQUIREMENTS

Caltrans must provide a written report to the Service within 90 days following completion of the proposed project. The report must document the number and size of any California red-legged frogs and (or) California tiger salamanders relocated from the action area, the date and time of relocation, and a description of relocation sites. The report must also state the number of California red-legged frogs and (or) California tiger salamanders killed or injured, describing the circumstances of the mortalities or injuries if known. The report must contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys and sighting records, and any other pertinent information such as the acreage affected and restored or undergoing restoration of each habitat type.

In addition, Caltrans must submit the results of the proposed undercrossing monitoring, annually for each year monitoring is conducted. Caltrans must then submit the completed Undercrossing Monitoring Report to the Service within 6 months of the completion of the study. This timeframe may be modified with approval from the Service. We encourage you to submit recommendations regarding modification of or additional measures that would improve or maintain protection of the California red-legged frog, and California tiger salamander, while simplifying compliance with the Act.

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.

Caltrans should continue to coordinate with the Service early in the design phase of their projects and work with us to design and include wildlife undercrossings into their projects where these structures would provide a benefit to endangered and threatened species.

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 action(s) outlined in the request for consultation. 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 operations causing such take must cease pending reinitiation.

If you have any questions, please contact Steve Kirkland of my staff at (805) 644-1766, extension 267.

Sincerely,

for Diane K. Noda
Field Supervisor

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