United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer To:
FWS-SD-10B0070-15F0232

APR 07 2015

Memorandum

To: Field Supervisor, Carlsbad Fish and Wildlife Office, Carlsbad, California

From: Assistant Field Supervisor, Carlsbad Fish and Wildlife Office, Carlsbad, California

Subject: Intra-Service Consultation on the Issuance of a Section 10(a)(1)(B) Permit for the Incidental Take of Arroyo Toad in conjunction with the Pauma Estates Project, San Diego County, California

This document provides the U.S. Fish and Wildlife Service's (Service) biological opinion in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), based on our review of the Pauma Estates, Inc. (Applicant) July 2014, *Habitat Conservation Plan for the Issuance of an Incidental Take Permit Under Section 10(a)(1)(B) of the Endangered Species Act for the Federally Endangered Arroyo Toad on the Pauma Estates Project, TM 5545* (HCP) (Everett and Associates 2014). The HCP was prepared by the Applicant in support of an application to the Service for a section 10(a)(1)(B) permit for the incidental take of the federally endangered arroyo toad [*Anaxyrus californicus* (*Bufo microscaphus c.*)]. The biological opinion addresses the effects of the HCP on this species.

This biological opinion is based on information provided in the HCP, arroyo toad listing documents, and other sources of information available in our files. The complete project file addressing this consultation is maintained at the Service's Carlsbad Fish and Wildlife Office (CFWO).

CONSULTATION HISTORY

We received the first draft of the HCP on March 5, 2010. Following receipt of our comments, the Applicant made revisions and provided the final HCP in July 2014. A Notice of Availability (NOA) for the proposed HCP and preliminary determination of a categorical exclusion pursuant to the National Environmental Policy Act was published in the Federal Register on December 31, 2014. The comment period for the NOA closed on January 30, 2015.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed Federal action is the issuance to Pauma Estates, Inc. of an incidental take permit (permit) under section 10(a)(1)(B) of the Act for a period of 5 years. The permit will authorize the incidental take of arroyo toad during construction of the Pauma Estates residential development (assessor parcel number 130-100-27) located south of State Route 76 and east of the eastern terminus of Temet Drive in the Pauma Valley area of unincorporated San Diego County, California.

The Pauma Estates project proposes to grade 16 lots for residential homes, construct the associated initial infrastructure (private road and utilities installation), and improve 3.8 acres of public road. The Applicant will grade and install the initial infrastructure improvements necessary to create residential lots that will subsequently be sold to individual buyers for final build out (e.g., pads, driveways, and landscaping) at an unspecified time in the future.

Conservation Measures

Pauma Estates, Inc. will implement the following conservation measures as described in the HCP to avoid, minimize, and mitigate adverse effects to arroyo toads:

1. Impacts to approximately 10.74 acres of occupied arroyo toad upland aestivation/foraging habitat will be offset through the onsite preservation of approximately 9.43 acres that supports occupied arroyo toad upland aestivation habitat within a dedicated conservation easement.

2. To improve the quality of arroyo toad upland aestivation/foraging habitat within the 9.43-acre onsite conservation area, Pauma Estates, Inc. will fund and implement the in-perpetuity management of the conservation area pursuant to the approved Resource Management Plan (Appendix B of the HCP).

3. Grading and construction within arroyo toad upland aestivation habitat will only take place during the arroyo toad breeding season (defined as March 15-July 31) when arroyo toads are less likely to occupy the upland habitat.

4. The first phase of project construction will include the construction of a permanent, 18-inch minimum height arroyo toad barrier wall (vertical berm) between the development area and the biological open space area. This barrier wall will be buried to the appropriate depth to preclude arroyo toads from burrowing under the wall. The final design and location of the wall will be determined in coordination with, and approved by, the Service prior to installation.

5. During grading and construction activities, a 5 mile per hour speed limit will be placed on all vehicles in order to minimize the possibility of vehicle strikes of arroyo toads.

6. All project construction and project-related vehicle travel will be limited to daylight hours as arroyo toads are active and found on roadways primarily at night.

7. A Service-approved biologist will be on site during all initial clearing and grubbing activities to ensure compliance with all conservation measures.

8. The following measures will be implemented during project construction:

    a. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the project footprint.

    b. To avoid attracting predators of the arroyo toad, the project area will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the project area.

    c. No pets will be allowed in the project area.

    d. Brush and other debris will be properly managed.

    e. All equipment maintenance, staging, and dispensing of fuel, oil, or coolant, will occur within the project area. Fueling and maintenance of trucks and other vehicles will occur only within a predetermined staging area. Contractor equipment will be checked for leaks prior to operation and repaired as necessary. “No-fueling zones” will be designated on construction plans.

9. The Service-approved biologist will conduct a training session for all project personnel prior to the start of the proposed activities. The training will include a description of the arroyo toad and its habitat and the general measures that are being implemented to conserve the listed species as they relate to the project and construction site boundaries.

10. Night lighting of the construction staging area will be of the lowest illumination necessary for human safety, selectively placed, shielded and directed away from natural habitats.

11. A one-time post construction monitoring report will be prepared by the biological monitor and provided to the Service immediately following conclusion of all initial infrastructure improvements (grading, road construction, and utilities installation). The report will summarize all avoidance, minimization, and mitigation measures that were implemented during grading and construction and their effects on arroyo toad, including an assessment of known or potential take of arroyo toad. The report will include a map showing the locations of any arroyo toads observed during construction and will list the dates, times, and other relevant information regarding these sightings. Photos depicting the required avoidance, minimization, and mitigation measures (i.e. silt fencing, toad barrier wall) will be part of the report.

12. An annual monitoring report discussing the condition of the open space will be submitted in perpetuity, pursuant to the requirements of the approved Resource Management Plan. This report will be prepared by the Service-approved Resource Manager in charge of management and monitoring of the onsite biological open space area. Annual reports will be submitted at the end of each calendar year. These reports will summarize the results of the previous year's management and monitoring, as well as management and monitoring anticipated in the upcoming year.

Action Area

According to 50 CFR § 402.02 pursuant to section 7 of the Act, the "action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. For purposes of this consultation, we define the action area as the 26.37-acre Plan Area as shown in Figures 1 and 2 of the HCP. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area as determined by the Service.

STATUS OF THE SPECIES/CRITICAL HABITAT

The Service listed the arroyo toad as endangered on December 16, 1994 (Service 1994), and issued a recovery plan for the species on September 24, 1999 (Service 1999). Final critical habitat for the arroyo toad was designated on February 9, 2011 (76 FR 7246). The status of the arroyo toad was described in detail in the completed 5-year review for this species (Service 2009). Please refer to these documents for detailed information on the life history requirements, threats, and conservation needs of the arroyo toad. These documents can be found at http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=D020.

Summary of Arroyo Toad Distribution, Life History and Threats

An estimated 23 populations of arroyo toad are known from Monterey County, California, south to Baja California, Mexico (Service 2009). These populations occur primarily in the headwaters of streams as small, isolated populations. Within San Diego County, the arroyo toad is known from several drainages on Marine Corps Base Camp Pendleton, San Luis Rey River, Santa Maria Creek, San Vicente Creek, and Sweetwater River. The San Luis Rey River and its associated tributaries provide habitat to one of the largest arroyo toad populations throughout its range and the largest population in San Diego County (Service 2009). Within the range of the arroyo toad, the San Luis Rey River and its associated tributaries are some of the few remaining occupied drainages that have habitat conditions conducive to supporting a large, robust population.

Arroyo toads typically breed from February to July on streams with persistent water (Griffin et al. 1999). Eggs hatch in 4 to 5 days, and the larvae are essentially immobile for an additional 5 to 6 days. Larvae then begin to disperse from the pool margin into the surrounding shallow water, where they spend an average of 10 weeks. After metamorphosis (June-July), the juvenile toads remain on the bordering gravel bars until the pool no longer persists (usually from 8 to 12 weeks depending on site and yearly conditions) (Sweet 1992).

During, and outside of, the breeding season arroyo toads use upland habitats for both foraging and aestivation. Juveniles and adult toads may range up to 1.2 miles from the watercourse into the surrounding uplands (Service 1999). During the day and other periods of inactivity arroyo toads will use areas of sandy, loamy, or other friable soils, within upland habitats for burrowing/aestivation. At night arroyo toads forage in the surrounding habitat for native ants and beetles (Service 1999). Upland habitats frequently used include, but are not limited to, chaparral, native and non-native grasslands, and oak woodlands (Service 1999). Disturbed areas with friable soils may also be used for aestivation/foraging. For example, agricultural areas can attract arroyo toads due to the presence of food sources and friable soils even though agricultural practices (i.e., mechanized tilling, chemical applications) may be hazardous to arroyo toads (Griffin and Case 2001).

Threats to arroyo toad populations at the time of listing included stream alteration, urban and rural development, mining, recreation, grazing, drought, wildfire, large flood events, and presence of exotic animal and plant species (Service 1994). Threats to the arroyo toad identified subsequent to the listing are the chytrid fungus disease and wildfire suppression activities (Service 2009). Conservation needs, as described in the arroyo toad recovery plan, include protecting and managing breeding and non-breeding habitat throughout the range of the species, monitoring existing populations to ensure recovery actions such as removal of exotic species are successful, identifying additional toad habitat and populations, obtaining research data to guide management efforts, and conducting outreach and public education regarding the toad.

Based on the improvements in the status of the arroyo toad and conservation management to control threats that have occurred since it was listed, the Service has proposed that the arroyo toad be downlisted from endangered to threatened status (Service 2014; 76 FR 17106).

Critical Habitat

Arroyo toad critical habitat encompasses approximately 98,366 acres of lands located in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego counties, California (76 FR 7246). Twenty-one critical habitat units have been designated for the arroyo toad. The proposed project is located within designated arroyo toad critical habitat Unit 14. This 10,115-acre unit is located in northern San Diego County and includes 4 acres of Bureau of Land Management land, 10 acres of State land, and 10,101 acres of private land. Unit 14 encompasses approximately 30 miles of the San Luis Rey River from the western edge of the La Jolla Indian Reservation downstream to the confluence with Guajome Creek near the City of Oceanside. It also includes approximately 3.4 miles of Pala Creek and 1.7 miles of Keys Creek upstream from the confluence with the San Luis Rey River. This unit supports one of the largest contiguous river reaches that is occupied by the species.

Primary constituent elements (PCEs) of critical habitat include the physical and biological features essential to the conservation of species that may require special management considerations or protection. The PCEs of arroyo toad critical habitat include: rivers or streams with hydrologic regimes that supply water to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads (PCE 1); riparian habitats for

breeding and rearing of tadpoles and juveniles and adjacent uplands including areas of loose soil where toads can burrow underground that provide foraging and living areas for juvenile and adult arroyo toads (PCE 2); a natural flooding regime (PCE 3); and stream channels and adjacent upland habitats that allow for movement to breeding pools, foraging areas, overwintering sites, upstream and downstream dispersal, and connectivity to areas that contain suitable habitat (PCE 4). A full description of the PCEs for the arroyo toad and critical habitat units can be found in the *Revised Critical Habitat for the Arroyo Toad Final Rule* (76 FR 7246).

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR § 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation and the impacts of State and private actions which are contemporaneous with the consultation in progress.

The action area for the proposed project is primarily agricultural land that is located adjacent to the San Luis Rey River, Pauma Valley Country Club (residential development and golf course), and a private airstrip. Vegetation that occurs within the action area is identified in Table 1.

Table 1. Vegetation within the action area.

Vegetation	Project Area (acres)
Southern Willow Scrub	0.03
Coast Live Oak Woodland	0.90
Diegan Coastal Sage Scrub	2.30
Mule Fat Scrub	0.75
Non-native Grassland	0.20
Disturbed Habitat	1.20
Urban/Developed	2.50
Row Crops (agriculture)	15.69
Eucalyptus Woodland	2.8
Total	**26.37**

The action area supports approximately 18.77 acres of suitable arroyo toad foraging and upland aestivation habitat (i.e., friable soils that support southern willow scrub, coast live oak woodland, mule fat scrub, non-native grasslands, disturbed habitat, and row crops); however, ongoing agricultural activities have degraded the quality of most of the onsite upland arroyo toad habitat. No suitable breeding habitat occurs within or adjacent to the action area due to upstream alterations in the stream hydrology. However, because the San Luis Rey River is entirely channelized immediately upstream of the action area (through the adjacent Pauma Valley

Country Club), accelerated river flows through the Country Club property can allow arroyo toad larvae (tadpoles) to be washed down from viable breeding areas upstream of the Country Club property and deposited in the San Luis Rey River adjacent to the action area, where the flow of the river dissipates making it possible for these larvae to metamorphose. It is then possible for the newly metamorphosed juveniles to disperse from the San Luis Rey River to adjoining upland areas, including the action area, to aestivate. A single, subadult arroyo toad was observed at the eastern boundary of the action area, adjacent to the San Luis Rey River and within the limits of the onsite agricultural area during surveys conducted in 2006. Based on the observation of arroyo toad within the action area and the presence of suitable arroyo toad foraging and aestivation habitat within the action area, the proposed project site is considered occupied by the species.

Critical Habitat

Approximately 26.37 acres of designated arroyo toad critical habitat Unit 14 occurs within the action area. Of the 26.37 acres, only 18.77 acres support PCEs (PCEs 2, 3, and 4 as described above in Status of the Species). Although the action area contains 18.77 acres of designated arroyo toad critical habitat with PCEs, they are currently of very low function due to agricultural activities and disturbance in the upland areas and the disruption of the natural hydrologic regime of the San Luis Rey River adjacent to, and upstream of, the action area.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur. We do not anticipate any indirect, interrelated or interdependent effects from the proposed action.

Direct Effects

Construction of the proposed project will result in the permanent loss of 10.74 acres (0.90 acre coast live oak woodland, 1.20 acres disturbed habitat, and 8.64 acres agriculture) of degraded upland arroyo toad aestivation/foraging habitat. In addition, any arroyo toads in the project footprint at the time of construction are expected to be killed or injured.

Quantifying the number of arroyo toads that may be located within the impact area is difficult for a number of reasons. The exact distribution and population size is difficult to estimate due to the dynamic conditions associated with their habitat. Suitable habitat may change during a given year or from year to year depending on climatic conditions, flooding, or other natural or human-related events (Service 1999), which in turn influence female reproductive success and juvenile survival. Therefore, because the arroyo toad population may experience dynamic changes and

population fluctuations in any given year, the precise number of arroyo toads that could be adversely affected by the proposed project at any given time is difficult to determine.

In addition, except during the early juvenile stage (first 4-5 weeks), arroyo toads forage at night and burrow during the day. Nocturnal activity is usually associated with rainfall and moderate temperatures and some nights of high relative humidity (Service 1999). Arroyo toads may be found in upland habitat up to 0.73 miles from a known breeding area (Holland and Sisk 2000). Therefore, detection of arroyo toads outside of the breeding season is very difficult, with limited opportunities for anticipating when the species may be active. Lastly, we know of no reliable survey method for determining the locations or densities of arroyo toads that may be burrowed within upland habitat.

Due to these constraints, the precise number of arroyo toads that may be located within the proposed impact area is not known. We do have an estimated arroyo toad density for the Harrah's Casino project that was constructed in upland habitat adjacent to the San Luis Rey River on the Rincon Indian Reservation in 2001. Approximately 144 arroyo toads were located on the 65-acre casino site for an approximate density of 2 toads per acre (Service 2000).

Although the action area contains upland habitat adjacent to the San Luis Rey River, it is different from the Rincon site (described above) in that no direct connection exists between suitable breeding habitat and upland aestivation/foraging habitat. Arroyo toad access to the upland aestivation/foraging habitat within the action area is likely dependent upon arroyo toad larvae (tadpoles) from viable breeding areas upstream being washed down stream, metamorphosing in the San Luis Rey River, and then dispersing into the upland areas of the project site to aestivate/forage.

In addition to lacking a direct connection to breeding habitat on most years, the upland habitat within the action area is considered to be of low quality for arroyo toad aestivation/foraging due to habitat degradation from agriculture and ongoing human use. Due to the lack of a permanent direct connection between breeding habitat and upland habitat and the low quality of the upland aestivation/foraging habitat, we anticipate that the density of arroyo toads occurring within the action area will be substantially lower than what was found at the Rincon site. Based on the best available information and our professional judgment, we estimate that no more than 5 arroyo toads (approximated density of one toad per 2 acres) will be impacted from implementation of the proposed project. Because of the low detectability of arroyo toads in their upland habitat, it is not likely that all individual arroyo toads killed or injured due to the proposed action will be detected during monitoring of the clearing and grubbing activities for the proposed project.

To avoid and minimize direct effects to arroyo toads within the proposed impact areas, grading and construction within arroyo toad upland aestivation habitat will only take place during the arroyo toad breeding season (defined as March 15-July 31) when arroyo toads are less likely to occupy the upland aestivation habitat (conservation measure 3). In addition, a permanent arroyo toad barrier wall will be constructed between the development footprint and the proposed onsite biological conservation area to ensure arroyo toads do not enter the development site

(conservation measure 4). The intention of this barrier is to exclude arroyo toads from the development area of the site in perpetuity.

Other conservation measures will be implemented during project construction to avoid and minimize potential impacts to arroyo toad that include: 1) restricting speed limits and vehicle use at night to avoid direct impacts to toads; 2) enclosing all food-related trash items in sealed containers and regularly removing them from the project area to avoid attracting arroyo toad predators; and 3) the presence of a biologist during all initial clearing and grubbing activities to ensure compliance with the conservation measures identified above.

To offset impacts to 10.74 acres of suitable arroyo toad upland aestivation/foraging habitat, 9.43 acres that includes approximately 8.0 acres of arroyo toad upland aestivation/foraging habitat and a 1.4 acre buffer area will be preserved on site in perpetuity through a dedicated conservation easement. In addition, implementation of an approved Resource Management Plan (Appendix B of the HCP; conservation measures 1 and 2) will increase the function of the preserved area for arroyo toad aestivation and foraging.

The loss of 10.77 ac of arroyo toad upland habitat and a few (i.e., up to 5) individual arroyo toads represents a small fraction of the arroyo toad habitat and individual arroyo toads supported within the San Luis Rey River. It is anticipated that over the long term, the quality of arroyo toad upland aestivation/foraging habitat within the action area will be improved over the baseline conditions and the action area will continue to be suitable to support aestivating/foraging arroyo toads. Thus, the low-level impact to arroyo toad habitat and individuals from project implementation is not expected to result in an appreciable reduction in the numbers, reproduction, or distribution of the species in the action area or rangewide.

Indirect Effects

We have not identified any indirect effects to arroyo toads from the proposed action that should be considered in this biological opinion.

Critical Habitat

The proposed action will permanently impact 10.74 acres of designated arroyo toad critical habitat with PCEs 2, 3 and 4. The area of critical habitat that will be impacted is located within critical habitat Unit 14. Unit 14 contains approximately 10,115 acres of designated arroyo toad critical habitat and supports one of the largest contiguous river reaches occupied by arroyo toads.

Although the project will impact designated arroyo toad critical habitat with PCEs, the PCEs currently within the action area are of very low quality and contribute minimally to the long term viability of arroyo toads due to the disturbed nature of the PCEs from agricultural operations and previous disturbance. Impacts to designated arroyo toad critical habitat will be mitigated through the onsite dedication of a conservation easement over 9.43 acres of critical habitat within Unit 14. The conservation area will remain contiguous with offsite areas of designated arroyo toad critical habitat both upstream and downstream of the action area, thereby providing for

movement to foraging areas, upstream and downstream dispersal, and connectivity to other areas containing suitable arroyo toad habitat. In addition, it is anticipated that over the long term, the quality of the approximately 8 acres of PCEs within the 9.43-acre conservation area will be improved over the baseline conditions by ceasing agricultural operations and implementing an approved Resource Management Plan (Appendix B of the HCP; conservation measures 1 and 2).

Although the project will reduce the overall amount of PCEs within arroyo toad critical habitat in the area of the proposed action and rangewide, the impact affects less than 0.01 percent of the designation within Unit 14 and an even smaller percentage of the total acreage of critical habitat designated for this species (98,366 acres). Moreover, the proposed management of the onsite conservation area will enhance the PCEs for long-term use by arroyo toad. Therefore, we have determined that this impact will not appreciably diminish the value of Unit 14 or the designation as a whole to support survival and recovery of the arroyo toad.

Effect on Recovery

The upland habitat included in the action area is part of the San Luis Rey River system that provides important breeding, feeding, and sheltering habitat for the arroyo toad. The action area is in the Southern Recovery Unit identified in the recovery plan (Service 1999). The recovery plan identifies the need to protect at least one population of arroyo toads within the San Luis Rey River to help meet the recovery criteria established for the Southern Recovery Unit.

The proposed project does not conflict with the goals and objectives of the recovery plan. Although the proposed project will impact habitats that are used by the arroyo toad for feeding and sheltering, these impacts will be minimal (i.e., 10.74 acres of habitat). Various conservation measures will be implemented to ensure that impacts are contained to the project footprint identified. Furthermore, upon completion of project construction, upland habitats not impacted by the project will be protected through a dedicated conservation easement and will be managed to provide functioning upland aestivation/foraging habitat for the arroyo toad in perpetuity pursuant to an approved Resource Management Plan, thereby ensuring that these areas are available for feeding and sheltering following project completion. The long-term conservation and management of these lands will increase their function for arroyo toad aestivation and foraging over the existing baseline condition and will support recovery of the arroyo toad.

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 have not identified any State, Tribal, local, or private actions within the action area that should be considered in this biological opinion.

CONCLUSION

After reviewing the current status of the arroyo toad, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's opinion that issuance of an incidental take permit for implementation of the HCP, as proposed, is not likely to jeopardize the continued existence of the arroyo toad or result in the destruction or adverse modification of arroyo toad critical habitat. We reached this conclusion by considering the following:

1. The construction-related death and injury of arroyo toads in the direct impact area is expected to be very low (5 individuals). This loss represents only a small fraction of the overall San Luis Rey population of arroyo toads, which is one of an estimated 23 populations of the species range wide; therefore, the project is not expected to appreciably reduce the overall numbers, reproduction, or distribution of the arroyo toad in the action area or rangewide;

2. Impacts to 10.74 acres of low quality arroyo toad upland aestivation/foraging habitat will be offset by the permanent conservation of 9.43 acres of which approximately 8 acres contain arroyo toad upland aestivation/foraging habitat. In addition, the 9.43 acres will be managed in perpetuity to increase the function of the preserved area for arroyo toad aestivation and foraging over the existing baseline condition;

3. With implementation of the conservation measures, impacts to arroyo toads are expected to be minimized;

4. Impacts to up to 5 arroyo toads and 10.74 acres of low quality arroyo toad habitat within the action area will not preclude protection of the San Luis Rey River population of arroyo toads or overall recovery of the species.

5. The proposed project will directly and permanently impact 10.74 acres of designated arroyo toad critical habitat within Unit 14 which affects less than 0.01 percent of the designation in the unit and an even smaller percentage of the total 98,366 acres of critical habitat designated for this species rangewide; therefore, the project is not expected to appreciably diminish the value of Unit 14 or the designation as a whole to support survival and recovery of the arroyo toad; and

6. The project will conserve and manage 9.43 acres of arroyo toad critical habitat, in perpetuity, within Unit 14. The long-term conservation and management of these lands will increase their function for arroyo toad aestivation and foraging over the existing baseline condition and will support recovery of the arroyo toad.

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, 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 behavior 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 to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 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 proposed HCP, its associated documents and this biological opinion clearly identify anticipated impacts to the arroyo toad likely to result from the proposed taking and the measures that are necessary and appropriate to minimize those impacts. All conservation measures described in the proposed HCP, together with the terms and conditions described in any section 10(a)(1)(B) permit issued with respect to the proposed HCP, are hereby incorporated by reference as reasonable and prudent measures and terms and conditions within this Incidental Take Statement pursuant to 50 CFR 402.14(I). Such terms and conditions are non-discretionary and must be undertaken for the exemptions under section 10(a)(1)(B) and section 7(o)(2) of the Act to apply. If the permit is issued, and the permittee fails to adhere to these terms and conditions, the protective coverage of the section 10(a)(1)(B) permit and section 7(o)(2) may lapse. The amount or extent of incidental take anticipated under the proposed HCP, associated reporting requirements, and provisions for disposition of dead or injured animals are as described in the HCP and its accompanying section 10(a)(1)(B) permit.

AMOUNT OR EXTENT OF TAKE

The exact distribution and population size of arroyo toads is difficult to estimate due to the dynamic conditions associated with their habitat and biology and because detection of individuals outside of the breeding season is difficult. Moreover, finding dead or injured arroyo toads within the construction area is unlikely as the individuals may be underground during construction activities and the species is cryptic making them difficult to recognize or detect. Because we do not have site-specific data regarding the density of arroyo toads at the site of the proposed action, the precise number of animals that will be affected by the proposed action is difficult to quantify. Nevertheless, based on the best available information and our professional judgment, we have established the following take exemption for the arroyo toad:

- Harm, death or injury of up to 5 adult and/or juvenile arroyo toads from ground disturbance, grading, and loss of upland aestivation habitat within the 10.74-acre development footprint. Because it is unlikely that individuals harmed, injured, or killed will be detected, the take exemption will be considered exceeded if more than 10.74 acres of arroyo toad aestivation/foraging habitat is impacted.

EFFECT OF THE TAKE

In the accompanying biological opinion, we determined that this level of take is not likely to result in jeopardy to arroyo toads.

REASONABLE AND PRUDENT MEASURES

No reasonable and prudent measures beyond the conservation measures included in the proposed HCP have been identified to minimize and mitigate the effects of the incidental take.

TERMS AND CONDITIONS

No terms and conditions are necessary because no additional reasonable and prudent measures have been identified.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize 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 have not identified any conservation recommendations that would provide further benefit to the arroyo toad in the action area of the project.

REINITIATION NOTICE

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

If you have any questions or concerns about this biological opinion, please contact Michelle Durflinger of this office at 760-431-9440.

LITERATURE CITED

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