DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018—AG15

Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Arroyo Toad

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for the arroyo toad (*Bufo californicus*) pursuant to the Endangered Species Act of 1973, as amended (Act). A total of approximately 73,780 hectares (182,360 acres) in Monterey, Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties, California, is designated as critical habitat.

Critical habitat identifies specific areas that are essential to the conservation of a listed species and, with respect to areas within the geographic range occupied by the species, that may require special management considerations or protection. The primary constituent elements for the arroyo toad are those habitat components that are essential for the primary biological needs of foraging, breeding, growth of larvae (tadpoles) and juveniles, intra-specific communication, dispersal, migration, genetic exchange, and sheltering. All areas designated as critical habitat for the arroyo toad contain one or more of the primary constituent elements.

We have not designated critical habitat on lands covered by an existing, legally operative, incidental take permit for the arroyo toad under section 10(a)(1)(B) of the Act, except for one area that has activities not covered by the habitat conservation plan (HCP). Subsection 4(b)(2) of the Act allows us to exclude from critical habitat designation areas where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We believe that the benefits of excluding HCPs from the critical habitat designation for the arroyo toad will outweigh the benefits of including them.

In areas where HCPs have not yet had permits issued, we have designated critical habitat for lands essential to the survival and conservation of arroyo toads and that may require special management considerations or protections.

Section 4 of the Act requires us to consider economic and other relevant impacts of specifying any particular area as critical habitat. Section 7 of the Act prohibits destruction or adverse modification of critical habitat by any activity funded, authorized, or carried out by any Federal agency. We solicited data and comments from the public on all aspects of the proposal, including data on the economic and other impacts of designation and our approaches for handling HCPs. We revised the proposal to incorporate or address new information received during the comment periods.

We also correct the list of endangered species to account for a change in the taxonomy of the arroyo toad.

DATE: This rule becomes effective on March 9, 2001.

FOR FURTHER INFORMATION CONTACT: For information about Monterey, San Luis Obispo, Santa Barbara, and Ventura Counties, northern Los Angeles County and the desert portion of San Bernardino County, contact Diane Noda, Field Supervisor, Ventura Fish and Wildlife Office, 2394 Portola Road, Suite B, Ventura, California, (telephone 805/644–1766; facsimile 805/644–3958). For information about southern Los Angeles and urban and montane San Bernardino Counties, and Riverside, Orange, and San Diego Counties, contact Ken Berg, Field Supervisor, Carlsbad Fish and Wildlife Office, 2730 Loker Avenue West, Carlsbad, California 92008 (telephone 760/431–9440; facsimile 760/431–9624).

SUPPLEMENTARY INFORMATION:

Background

The following discussion is adapted from the final recovery plan for the arroyo toad (Service 1999), which is available from the addresses above. The arroyo toad *(Bufo californicus)* is one of three members of the southwestern toad *(B. microscaphus)* complex, in the family of true toads, Bufonidae. At the time it was listed, the arroyo toad was considered a subspecies of the southwestern toad, *B. microscaphus californicus*. The taxonomy of the complex has been examined recently by Gergus (1998). Based on his genetic studies, the arroyo toad should be considered a separate species, *Bufo californicus*.

The arroyo toad is a small (adults: snout-urostyle (body) length 55 to 82 millimeters (mm) (2.2 to 3.2 inches (in.)), dark-spotted toad of the family Bufonidae, with females larger than males. Adult arroyo toads have a light-olive green or gray to tan dorsum (back) with dark spots and warty skin. The venter (underside) is white or buff and without dark blotches or spots. A light-colored, V-shaped stripe crosses the head and eyelids, and the anterior portion of the oval parotoid glands (just behind the eyes) are pale. There is usually a light area on each side of the sacral (pelvic) hump and in the middle of the back. The arroyo toad generally does not have a middorsal stripe, but if one is present, it extends only partway along the back.

The arroyo toad is found in coastal and desert drainages from Monterey County, California, south into northwestern Baja California, Mexico. These systems are inherently quite dynamic, with marked seasonal and annual fluctuations in climatic regimes, particularly rainfall. Natural climatic variations as well as other random events, such as fires and floods, coupled with the species' specialized habitat requirements, lead to annual fluctuations in arroyo toad populations. Human alterations of habitat can have unpredictable effects on arroyo toad populations. As a result of agriculture and urbanization, and the construction, operation, and maintenance of water storage reservoirs, flood control structures, roads, and recreational facilities such as campgrounds and off-highway vehicle parks, many arroyo toad populations have been reduced in size or extirpated (eliminated) due to extensive habitat loss from the 1920s into the 1990s. Jennings and Hayes (1994) believe that the loss of habitat, coupled with habitat modifications due to the manipulation of water levels in many central and southern California streams and rivers, as well as predation from introduced aquatic species and habitat degradation from introduced plant species, caused arroyo toads to be extirpated from 76 percent of the previously occupied habitat in California.

Because the arroyo toad was often confused with the California toad *(Bufo boreas halophilus),* which is very common in the same region, detailed studies of the natural history of the arroyo toad were not begun until the 1980s and 1990s. The arroyo toad exhibits breeding habitat specialization that favors shallow pools and open sand and gravel channels along low-gradient reaches of medium to large-sized streams (Service 1999). These streams can have either intermittent or perennial streamflow and typically experience periodic flooding that scours vegetation and replenishes fine sediments. In at least some portions of its range, the species also breeds in smaller streams and canyons where low-gradient breeding sites are more sporadically

distributed. Populations in smaller drainages are likely to be smaller and at greater risk of extirpation than those on larger streams and in larger habitat patches (Service 1999).

Arroyo toads also require and spend most of their adult life in upland habitats. Individual toads have been observed as far as 2 kilometers (km) (1.2 miles (mi)) from the streams where they breed, but are most commonly found within 0.5 km (0.3 mi) of those streams (Service 1999; Griffin *et al.* 1999; Dan C. Holland, Camp Pendleton Amphibian and Reptile Survey, Fallbrook, California, unpublished data; Holland and Sisk 2000). Arroyo toads typically burrow underground during periods of inactivity and thus tend to utilize upland habitats that have sandy, friable (readily crumbled) soils. Although the upland habitat use patterns of this species are poorly understood, activity probably is concentrated in the alluvial flats (areas created when sediments from the stream are deposited) and sandy terraces found in valley bottoms of currently active drainages (Service 1999, Griffin *et al.* 1999, Sweet *in litt.* 1999, Ramirez 2000, Holland and Sisk 2000).

Habitat Characteristics and Ecological Considerations

Appropriate habitat for the arroyo toad is created and maintained by the fluctuating hydrological, geological, and ecological processes operating in riparian ecosystems and the adjacent uplands. The riparian/wash habitats as well as adjacent upland habitats are essential for this species' survival. Periodic flooding that modifies stream channels, redistributes channel sediments and alters pool location and form, coupled with upper terrace stabilization by vegetation, is required to keep a stream segment suitable for all life stages of the arroyo toad.

Specifically, arroyo toads require shallow, slow-moving streams, and riparian (areas near a source of water) habitats that are disturbed naturally on a regular basis, primarily by flooding. Periodic flooding helps maintain areas of open, sparsely vegetated sandy stream channels and terraces. Throughout their range, arroyo toads are typically found in medium- to large-sized streams, in stretches where riverbed gradients are low, there are adjacent alluvial terraces, and surface waters form shallow pools that persist at least through the early summer months (*e.g.*, into June). These habitat conditions are most prevalent in foothill valleys, but also occur in several drainages along the coastal plain and on the desert side of the Transverse Ranges.

Arroyo toads have specialized requirements for breeding habitats. Breeding, arroyo toads use open sites such as overflow pools, old flood channels, and shallow pools along streams. Such habitats rarely have closed canopies over the lower banks of the stream channel due to regular flood events. Heavily shaded pools are generally unsuitable for larval and juvenile arroyo toads because of lower water and soil temperatures and poor algal mat development. Episodic (temporary) flooding is critical to keep the low stream terraces relatively vegetation-free and the soils friable enough for juvenile and adult toads to create burrows. Pools less than 30 centimeters (cm) (12 in.) deep with clear water, flow rates less than 5 cm per second (0.2 foot (ft) per second), and bottoms composed of sand or well-sorted fine gravel are favored by adults for breeding.

Areas that are used by juveniles consist primarily of sand or fine gravel bars with varying amounts of large gravel or cobble with adjacent stable sandy terraces and streamside flats. Areas that are damp and have less than 10 percent vegetation cover provide the best conditions for juvenile survival and rapid growth (Service 1999).

The adjacent alluvial terraces used by subadults and adults for foraging and burrowing are typically sparsely to moderately vegetated with brush and trees such as mulefat (*Baccharis* spp.), California sycamore *(Platanus racemosa)*, cottonwoods (*Populus* spp.), coast live oak (*Quercus agrifolia*), and willow (*Salix* spp.). The understory of stream terraces may consist of scattered short grasses, herbs, and leaf litter, with patches of bare or disturbed soil, or have no vegetation at all. Substantial areas of fine sand, into which adult toads burrow, must be present, but can be interspersed with gravel or cobble deposits.

Upland habitats used by arroyo toads during both the breeding and nonbreeding seasons include alluvial scrub, coastal sage scrub, chaparral (shrubby plants adapted to dry summers and moist winters), grassland, and oak woodland. Arroyo toads also have been found in agricultural fields (Griffin *et al.* 1999), which probably constitute sinks (areas where mortality rates are higher than reproduction rates) over the long term, due to tilling, pesticide and fertilizer applications, and heavy equipment use (Paul C. Griffin, University of Montana, Missoula, Montana *in litt.* 2000). When foraging, subadult and adult arroyo toads often are found around the driplines of oak trees. These areas often lack vegetation, yet have appropriate levels of prey. When active at night, toads often can be observed near ant trails feeding on passing ants, beetles, and other prey.

Males call from the streams during the breeding period, which is generally from late February to early July, although it can be extended in some years, depending on weather conditions. Males may remain at or near the breeding pools for several weeks and are particularly susceptible to predation at this time. Females apparently move to the breeding pools in the streams for only short time periods, in order to soak in the water and to breed (Griffin *et al.* 1999; Nancy Sandburg, Santa Barbara, California, pers. comm. 1999). Amplexus (mating embrace of the female by the male) and egg-laying generally occur at the site where the male was calling. Female arroyo toads apparently release their entire clutch of 2,000 to 10,000 eggs as a single breeding effort and probably are unable to produce a second clutch during the mating season. If conditions are unsuitable, females may not obtain sufficient food for egg production and will forgo breeding during that year. The eggs are laid on substrates of sand, gravel, or cobble generally located away from vegetation in the shallow margins of the pool. High water flows can wash the eggs out of pools, breaking up the egg strands and killing the developing embryos. Silt eroding into the streams from road crossings, adjacent roads, overgrazing, or mining activities can cover and suffocate eggs.

Larvae usually hatch in 4 to 6 days at water temperatures of 12 to 16 degrees Celsius (54 to 59 degrees Fahrenheit). Larvae may take 8 to 14 days to become free-swimming, depending on the water temperature. They are particularly susceptible to the effects of high water flows during this time period, and heavy rains or untimely releases of water from dams can kill thousands of tadpoles very quickly. The larval period for arroyo toads lasts about 65 to 85 days, depending on water temperatures. Metamorphosis may occur at any time between April and the beginning of September, depending on the time of breeding, weather, and water quality. Peak metamorphosis occurs from the end of June to mid-July in the northern part of the toad's range and from late April to mid-May in southern California, although it may be later, particularly at higher elevations. For several days before metamorphosis, arroyo toad larvae cease feeding and aggregate in shallow water along the edges of gravel or sand bars, often under or along stranded algal mats. The metamorphosing and newly

metamorphosed toads are extremely susceptible to predation, habitat disturbance, and activities in the streams during this period (Service 1999).

Juvenile arroyo toads remain in the saturated substrate at the edges of breeding pools for 1 to 3 weeks after metamorphosis. They are active during the day and can be exposed on the barren sand because they are too small to burrow into the substrate. During this period, many toads are lost due to predation unless they can find some cover, such as cobble, algal mats, or pieces of debris, under or beside which to hide. As the toads mature, they move further from the pools onto sand and gravel bars. Crushing of toads by humans and livestock can be a substantial source of mortality at this stage (Service 1999).

As the toads grow, they begin to dig shallow burrows in fine sand, and switch to a nocturnal (night-time) activity pattern, when they forage for ants and beetles. Suitable sandy habitat can be highly localized resulting in dense concentrations of juvenile toads. If the substrate is not friable enough, juvenile toads often disperse farther away from the breeding pool into nearby stands of woody riparian vegetation. Most toads will move into willows or other vegetation as they grow, and as the stream dries naturally. Thus, to provide optimal conditions for arroyo toad survival and recovery, it is necessary to maintain a patchwork of suitable habitats. This patchwork will be on several scales, with open stream pools and sand or gravel bars interspersed with patches of native vegetation.

Little is known of the seasonal and annual movements or physiological ecology of adults, but subadults and some adult males move along streams as much as 0.8 km (0.5 mi) and over 1.0 km (0.6 mi) in a few cases during a single breeding season (Griffin et al. 1999; Ramirez 2000). Dispersal movements along the stream channel may be over 8 km (5 mi), as evidenced by finding arroyo toads breeding along upper Piru Creek in 1999 and 2000 (U.S. Forest Service (Forest Service) 1999, Maeton Freel, Forest Service, pers. comm. 2000). The area had been surveyed numerous times in the past without finding the species (Sam Sweet, University of California, Santa Barbara, pers. comm. 1999, 2000).

The extent of arroyo toad movements away from the stream channel is influenced by rainfall amounts, availability of surface water, width of streamside terraces and floodplains, vegetative cover, and topography (Griffin *et al.* 1999; Ramirez 2000). In San Diego County, Griffin *et al.* (1999) found that, for toads radiotracked for more than 10 days, 14 female adult arroyo toads moved an average maximum distance of 135 meters (m) (443 feet (ft)) and a maximum of more than 300 m (984 ft) perpendicularly from streams, while 46 males moved an average maximum of 73 m (240 ft) from the streams. Thirty-three males along coastal streams with broad floodplains moved an average maximum of 92 m (302 ft) from the streams, while 13 in a narrower canyon moved only 23 m (75 ft) from the streambed (Griffin *et al.* 1999). Ramirez (2000) recorded a maximum distance from the stream of 37 m (121 ft) for 12 arroyo toads in one desert slope stream with a very narrow floodplain, and 200 m (656 ft) for an undisclosed number of toads in another desert slope system with a broader floodplain. Those distances probably underestimate the true range of movement distances due to the limited numbers and tracking season. The extent to which toads move away from streams may be partially regulated by climatic conditions; moderate stable temperatures and high humidity facilitate longer-distance movements into upland habitats (Service 1999). We do not have enough data to characterize fully overwintering activities and habitat use in all of the systems that arroyo toads inhabit.

Several land use activities may affect the hydrology of arroyo toad stream habitats and destroy or severely modify the dynamic nature of the riparian systems upon which arroyo toads depend for reproduction, development, and survival. Human activities that affect water quality influence the amount and timing of nonflood flows or frequency and intensity of floods, affect riparian plant communities, or alter sedimentation dynamics can reduce or eliminate the suitability of stream channels for arroyo toad breeding habitat. Degradation or loss of surrounding riparian and upland habitats reduces and eliminates foraging and overwintering habitat. The introduction of nonnative plant and animal species can reduce the quality of all habitats used by arroyo toads, lead to detrimental levels of competition and predation, or reduce the availability of toad food. Run-off from roads can decrease habitat quality for arroyo toads, and roads provide access for humans, domestic animals, and invasive species that can lead to additional habitat degradation.

The effects of such activities and factors may not become apparent until many years later when the habitat finally becomes sufficiently degraded that arroyo toads can no longer reproduce and survive. Combined with the normal climatic fluctuations in the arroyo toad's range, which can include consecutive years of extremely high or low rainfall, human impacts can cause temporary or permanent extirpations of toads from some areas. Human activities that may cause adverse impacts to arroyo toads include urbanization and agriculture within and adjacent to riparian habitats, the use of pesticides and herbicides within or adjacent to arroyo toad habitat, dam building and the resulting reservoirs, water flow manipulations, sand and gravel mining, suction dredge mining, road placement across and within stream terraces, livestock grazing, off-highway vehicle use of roads and stream channels, the placement of campgrounds and other recreational facilities in arroyo toad habitat (especially on stream terraces), and the use of stream channels and terraces for recreational activities.

Previous Federal Actions

We first included the arroyo southwestern toad as a Category 2 candidate species in the September 18, 1985, Notice of Review of Candidate Species (50 FR 37958). It was included under the same category in subsequent notices on January 6, 1989 (54 FR 554), and November 21, 1991 (56 FR 58804). We were petitioned to list the arroyo toad under the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*), on December 30, 1992, and we published a proposed rule on August 3, 1993 (58 FR 41231). The arroyo toad was listed as endangered on December 16, 1994 (59 FR 64859). The designation of critical habitat was determined to be not prudent due to threats of vandalism and collection. A draft recovery plan for the arroyo southwestern toad was made available for public comment on May 6, 1998 (63 FR 25062), and we published the final recovery plan in September 1999.

At the time of listing, we concluded that designation of critical habitat for the arroyo toad was not prudent due to threats of vandalism and collection and because such designation would not benefit the species. We were concerned that critical habitat designation would likely increase the degree of threat from vandalism, collection, or other human-induced impacts. We were aware of at least one instance of the apparent collection of a group of breeding males that had occurred during the listing process, following the publication of information regarding an ongoing scientific study. During the development of the final recovery plan, concern was raised about collecting

activities on some public lands (Service 1999). However, we have determined that instances of vandalism have not increased since the listing of the arroyo toad, and the threats to this species and its habitat from specific instances of collection and habitat destruction do not outweigh the broader educational, potential regulatory, and other possible benefits that designation of critical habitat would provide for this species. A designation of critical habitat can provide educational benefits by formally identifying those areas essential to the conservation of the species. These areas are also identified in the recovery plans as the focus of our recovery efforts for the arroyo toad.

On March 4, 1999, the Southwest Center for Biological Diversity (Center for Biological Diversity) and Christians Caring for Creation filed a lawsuit in the Northern District of California against the Service for failure to designate critical habitat for seven species including the arroyo southwestern toad (*Bufo microscaphus californicus*). On November 5, 1999, the district court dismissed the plaintiffs' lawsuit pursuant to a settlement agreement entered into by the parties. Under the settlement agreement, we agreed to submit a proposed determination of critical habitat for the arroyo toad by June 1, 2000, and to submit the final designation to the **Federal Register** by January 5, 2001. By further agreement with the plaintiffs, this final deadline was to extended to January 19, 2001, to allow us time to review and incorporate the comments received on the proposed designation and draft economic analysis.

On June 8, 2000, we published a proposed determination for the designation of critical habitat for the arroyo toad (65 FR 36512). A total of approximately 193,600 hectares (478,400 acres) was proposed as critical habitat for the arroyo toad in Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, San Bernardino, Orange, Riverside, and San Diego Counties, California. The comment period was open until August 7, 2000. During this 60-day comment period we held two public hearings (Valencia on June 27 and Temecula on June 29, 2000). On November 9, 2000, we published a notice (65 FR 67334) announcing the reopening of the comment period and a notice of availability of the draft economic analysis on the proposed determination. The comment period was open an additional 30 days, until December 11, 2000.

Critical Habitat

Critical habitat is defined in section 3 of the Act as—(I) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the Act is no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 also requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as ''. . . the direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.'' Aside from the added protection that may be provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat. Because consultation under section 7 of the Act does not apply to activities on private or other non-Federal lands that do not involve a Federal nexus, critical habitat designation would not afford any additional protections under the Act against such activities.

To be included in a critical habitat designation, the habitat must first be ''essential to the conservation of the species.'' Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (*i.e.*, areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Section 4 requires that we designate critical habitat at the time of listing and based on what we know at the time of the designation. When we designate critical habitat at the time of listing or under short court-ordered deadlines, we will often not have sufficient information to identify all areas of critical habitat. We are required, nevertheless, to make a decision and thus, must base our designations on what, at the time of designation, we know to be critical habitat.

Within the geographic area occupied by the species, we will designate only areas currently known to be essential. Essential areas should already have the features and habitat characteristics that are necessary to sustain the species. We will not speculate about what areas might be found to be essential if better information became available, or what areas may become essential over time. If the information available at the time of designation does not show that an area provides essential life cycle needs of the species, then the area should not be included in the critical habitat designation. Within the geographic area occupied by the species, we will not designate areas that do not now have the primary constituent elements , as defined at 50 CFR 424.12(b), that provide essential life cycle needs of the species.

Our regulations state that, ''The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' (50 CFR 424.12(e)). Accordingly, when the best available scientific and commercial data do not demonstrate that the conservation needs of the species require designation of critical habitat outside of occupied areas, we will not designate critical habitat in areas outside the geographic area occupied by the species.

Our Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (Vol.59, p. 34271), provides criteria, establishes procedures, and provides guidance to ensure that decisions made by the Service represent the best scientific and commercial data available. It requires Service biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information should be the listing package for the species. Additional information may be obtained from a recovery plan, articles in peer-reviewed

journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, unpublished materials, and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, all should understand that critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1), and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the section 9 take prohibition, as determined on the basis of the best available information at the time of the action. We specifically anticipate that federally funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

In determining areas that are essential to conserve the arroyo toad, we used the best scientific and commercial data available. We have reviewed the overall approach to the conservation of the arroyo toad undertaken by the local, state, Tribal, and Federal agencies operating within the species' range since its listing in 1994, and the identified steps necessary for recovery outlined in the final Recovery Plan for the Arroyo Southwestern Toad (Service 1999).

We have also reviewed available information that pertains to the habitat requirements of this species, including material received since completion of the recovery plan. The material included data in reports submitted during section 7 consultations and by biologists holding section 10(a)(1)(A) recovery permits; research published in peer-reviewed articles and presented in academic theses and agency reports; regional Geographic Information System (GIS) coverages; occupied and potential habitat maps developed by the Forest Service (Forest Service 2000); habitat evaluation models for the San Diego County Multiple Species Conservation Program (MSCP), the North San Diego County Multiple Habitat Conservation Program (MHCP), and the North County Subarea of the MSCP for Unincorporated San Diego County; and a predictive habitat suitability map for San Diego County (Barto 1999). Further, information provided in comments on the proposed designation and draft economic analysis were evaluated and taken into consideration in the development of this final designation.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we are required to base critical habitat determinations on the best scientific and commercial data available and to consider those physical and biological features (primary constituent elements) that are essential to the conservation of the species, and that may require special management considerations and protection. These include, but are not limited to: space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

The areas designated as critical habitat are designed to provide sufficient breeding and upland habitat to maintain self-sustaining populations and metapopulations of arroyo toads throughout its range, and provide of those habitat components essential for the conservation of the species. Due to the complex life history and dispersal capabilities of the toads, and the dynamic nature of the environment in which they are found, the critical habitat designations include a range of stream reaches and associated uplands. The critical habitat units are configured to provide for dispersal and migration corridors, as well as allowing room for population expansion.

The primary constituent elements of critical habitat for the arroyo toad include rivers or streams with a hydrologic regime that supplies sufficient flowing water of suitable quality and sufficient quantity and at the appropriate times to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads; low-gradient stream segments (typically less than 4 percent) with sandy or fine gravel substrates which support the formation of shallow pools and sparsely vegetated sand and gravel bars for breeding and rearing of tadpoles and juveniles; a natural flooding regime or one sufficiently corresponding to a natural regime that will periodically scour riparian vegetation, rework stream channels and terraces, and redistribute sands and sediments, such that adequate numbers and sizes of breeding pools and sufficient terrace habitats with appropriate vegetation are maintained; upland habitats (particularly alluvial streamside terraces and adjacent valley bottomlands that include areas of loose soil and dependable subsurface moisture where toads can burrow underground and avoid desiccation) of sufficient width and quality to provide foraging and living areas for subadult and adult arroyo toads; few or no nonnative species that prey upon or compete with arroyo toads, or degrade their habitat; stream channels and upland habitats where manmade barriers do not completely or substantially impede migration to overwintering sites, dispersal between populations, or recolonization of areas that contain suitable habitat; and habitats with limited human-related disturbance.

Arroyo toads are not distributed uniformly throughout the critical habitat units. Arroyo toad breeding habitat is patchily distributed along the stream courses, and the same is true of appropriate upland habitat. Some areas primarily provide for migration and dispersal between breeding and foraging habitats or allow for dispersal to additional breeding pools that will accommodate expanding populations. Habitat conditions within streams can change rapidly in response to streamflows and other factors, such as the development and shifting of sand and gravel bars, and creation and disappearance of pools. Terrace and upland habitats, although more stable than streambed and riparian habitats, may change as a result of rainfall, earthquakes, fires, and other natural events. These factors may cause the habitat suitability of given areas to vary over time, thus affecting the distribution of toads.

Criteria Used To Identify Critical Habitat

The final recovery plan (Service 1999) for the arroyo toad identified the specific recovery needs of the species and serves as a starting point for

identifying areas essential to the conservation of the toad. Those drainage basins identified in the final recovery plan as areas necessary to achieve arroyo toad recovery are generally reflected in this final critical habitat designation.

The recovery strategy for the arroyo toad focuses on providing sufficient breeding and upland habitat to maintain self-sustaining populations and metapopulations of arroyo toads across the historic range of the species in California. To recover the arroyo toad to the point where it can be downlisted or delisted, it is essential to preserve the species' genetic diversity as well as the variety of ecological environments in which it has persisted.

We are designating critical habitat on lands that are considered essential to the conservation of the arroyo toad. Using the recovery plan for guidance, we determined an area was essential if it had one or more of the following characteristics: (1) supports a substantial core population of arroyo toads; (2) supports at least a small toad population and possesses favorable habitat conditions for population expansion and persistence; (3) suitable habitat situated in a location that appears to be crucial for maintaining the viability of a larger metapopulation; (4) occupied habitat on the periphery of the arroyo toad's geographic range; and (5) occupied habitat in atypical or underrepresented ecological environments (e.g., high elevation or desert-edge populations). These areas have the primary constituent elements described above.

Areas supporting core populations or that have the potential to support large populations are essential because they represent the foundation for continued persistence of the species. Furthermore, some habitat areas that would not be considered essential if geographically isolated are in fact essential when situated in locations where they facilitate continued connectivity between surrounding populations or play a significant role in maintaining metapopulation viability (e.g., by providing additional areas of occupancy that provide resilience to periodic extirpations of adjacent habitat patches). Populations on the periphery of the species range or in atypical ecological environments are important for maintaining the genetic diversity of the species which could be essential to evolutionary adaptation to changing climatic and environmental conditions.

Arroyo toads are found in a variety of ecologically and geographically distinct areas. In order to preserve this diversity, the recovery plan identifies three recovery units—Northern, Southern, and Desert—that reflect distinct ecological and geographic regions within the range of the species. The recovery units as identified in the final recovery plan are provided for reference in Table 1.

TABLE 1.—RECOVERY UNITS FOR THE ARROYO TOAD

Northern Unit
San Antonio River, Monterey County
Sisquoc River and tributaries, Santa Barbara County
Upper Santa Ynez River Basin (Indian, Mono, Agua Caliente), Santa Barbara County
Sespe Creek, Ventura County
Piru Creek (Upper and Lower), Ventura and Los Angeles counties
Upper Santa Clara River Basin, Los Angeles County
Upper Los Angeles Basin: (Big Tujunga, tributaries, Arroyo Seco), Los Angeles County
Southern Unit
Santiago Creek, Orange County
San Jacinto River and Bautista Creek, Riverside County
San Juan basin and Trabuco Creeks, Orange and Riverside counties
San Mateo and San Onofre Creek basins, San Diego and Orange counties
Lower Santa Margarita basin (De Luz, Roblar, and Sandia Creeks), San Diego County
Upper Santa Margarita basin (Temecula Creek, Arroyo Seco), Riverside and San Diego Counties
Lower and Middle San Luis Rey basin (below Lake Henshaw), San Diego County
Upper San Luis Rey basin (above Lake Henshaw), San Diego County
Santa Ysabel Creek, San Diego County
San Diego basin (including San Vicente Creek), San Diego County
Sweetwater River basin (including Viejas, Peterson Creeks), San Diego County
Cottonwood Creek basin, San Diego County
Desert Unit
Little Rock Creek, Los Angeles County
Upper Mojave River basin (Mojave, Deep, Horsethief, Little Horsethief), San Bernardino County
Whitewater River basin, Riverside County

To identify and map areas essential to the conservation of the species, we used the characteristics of essential habitat described above, data on known arroyo toad locations, and criteria in the recovery plan for reclassification of the species. Spatial data on stream gradients were used to determine the extent of suitable breeding habitat in these areas. Stream reaches containing suitable breeding habitat are often patchily distributed and interspersed with higher gradient segments. These interspersed high-gradient segments were included in the mapped essential stream reaches because of their proximity to suitable breeding habitat and their importance in facilitating movement between breeding sites.

To delineate essential upland habitat areas, we used a GIS-based modeling procedure to identify alluvial terraces and valley bottomlands adjacent to the previously identified essential stream reaches. Lacking spatially explicit data on geomorphology, elevation above the stream channel was used as an indicator of the extent of alluvial habitat. After some experimentation, we determined

that areas up to 25 m (80 ft) in elevation above the stream channel were most likely to contain the primary constituent upland habitat elements that are essential to arroyo toads. In extremely flat areas we recognized that there is likely a distance from the stream channel beyond which arroyo toads seldom travel, so we truncated the upland habitat delineation at a distance of 1.5 km (0.9 mi) if the 25-m elevation limit had not yet been reached. This distance is based on reported observations of arroyo toads at least 1.2 km from the upland/riparian ecotone (Holland and Sisk 2000). As it turned out, the 25-m elevation limit was reached at distances less than 1.5 km from the mapped stream channel along more than 99 percent of the stream reaches, so the distance limit rarely was a factor.

This GIS-based modeling technique was effective at capturing alluvial areas associated with river valleys. Thus, the width of the upland component of critical habitat varies based on topography. The habitat widens in broad alluvial valleys and narrows in places where streams run through constricted canyons or between surrounding hills.

The boundaries of critical habitat in each drainage are mapped as contiguous blocks of 250-m-by-250 m cells that conform to a Universal Transverse Mercator (UTM) grid. We evaluated the effectiveness of this approach by overlaying known arroyo toad locations on these habitat boundaries and calculating the percent encompassed. More than 95 percent of all known locations fell within the critical habitat boundaries. However, the vast majority of known locations come from stream surveys done during the breeding season and thus are detections of toads in breeding habitat. To more rigorously evaluate the critical habitat model, we assessed its effectiveness at capturing documented toad locations from the one available study that focused specifically on surveying toads in upland habitats. Holland and Sisk (2000) established extensive pitfall trap arrays at discrete distances from two stream courses and operated these arrays at various periods throughout the year. They had 466 captures of arroyo toads, 35 (7.5 percent) of which were identified as being in upland areas. Those toads were captured at distances that ranged from 15 to 1,175 m from the upland-riparian ecotone (boundary) (Holland and Sisk 2000). For the two areas sampled in this study, our modeled critical habitat boundaries encompassed 88 percent of the pitfall trapping stations where arroyo toads were detected.

To identify critical habitat units, we first examined those lands under Federal jurisdiction. Those lands include areas managed by the Department of Defense (DOD), the Forest Service, the Bureau of Land Management (BLM), the Army Corps of Engineers (Army Corps), and the Service. We also considered the existing status of non-Federal and private lands in designating areas as critical habitat. Section 10(a)(1)(B) of the Act authorizes us to issue permits for the take of listed species incidental to otherwise lawful activities. An incidental take permit application must be supported by a habitat conservation plan (HCP) that identifies conservation measures that the permittee agrees to implement for the species to minimize and mitigate the impacts of the requested incidental take. With one exception, non-Federal public lands and private lands that are covered by an existing operative HCP and executed implementation agreement (IA) for arroyo toads under section 10(a)(1)(B) of the Act are not designated as critical habitat because the benefits of exclusion outweigh the benefits of inclusion as discussed in section 4(b)(2) of the Act.

We are including portions of the Soboba, Pala, Rincon, Capitan Grande, Viejas, and Sycuan Indian Reservations because they all contain areas of high-quality habitat within units that are essential to the conservation of arroyo toads. We have coordinated with the respective Tribes on this designation under the guidance of the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), E.O. 13175, and 512 DM 2, which requires us to coordinate with federally recognized Tribes on a Government-to-Government basis.

In defining critical habitat boundaries, we made an effort to exclude all developed areas, such as towns, housing developments, and other lands unlikely to contain primary constituent elements essential for arroyo toad conservation. Our 250-meter UTM grid minimum mapping unit was designed to minimize the amount of development along the urban edge included in our designation. However, this minimum mapping unit does not exclude all developed areas, such as buildings, aqueducts, railroads, airports, and other lands unlikely to contain the primary constituent elements. Federal actions limited to these areas would not trigger a section 7 consultation, unless they affect the species and/or the primary constituent elements in adjacent critical habitat.

Critical Habitat Designation

The approximate area encompassing the designated critical habitat by county and land ownership is shown in Table 2.

TABLE 2.—APPROXIMATE CRITICAL HABITAT IN HECTARES (HA) (ACRES (AC)) BY COUNTY AND LAND OWNERSHIP

[Area estimates reflect critical habitat unit boundaries, not the primary constituent elements within]

County	Forest Service	BLM	FWS	Military	State/Local	Tribal	Private	Total
Monterey	0	0	0	2,900 ha (7,170 ac)	0	0	20 ha (50 ac)	2,920 ha (7,220 ac)
Santa Barbara	3,415 ha (8,440 ac)	0	0	0	0	0	2,365 ha (5,830 ac)	5,780 ha (14,270 ac)
Ventura	4,080 ha (10,090 ac)	0	0	0	0	0	360 ha (900 ac)	4,440 ha (10,990 ac)
Los Angeles	4,505 ha (11,130 ac)	10 ha (30 ac)	0	0	20 ha (45 ac)	0	3525 ha (8705 ac)	8,060 ha (19,910 ac)
San Bernardino	1,130 ha (2,790 ac)	80 ha (200 ac)	0	925 ha (2,290 ac)	540 ha (1,330 ac)	0	4,010 ha (9,910 ac)	6,685 ha (16,520 ac)
Riverside	970 ha (2,400 ac)	620 ha (1,530 ac)	0	0	90 ha (220 ac)	155 ha (390 ac)	4,360 ha (10,785 ac)	6,195 ha (15,325 ac)
Orange	325 ha (815 ac)	0	0	30 ha (75 ac)	1,090 ha (2,700 ac)	0	3,375 ha (8,330 ac)	4,820 ha (11,920 ac)
San Diego	5,745 ha (14,190 ac)	230 ha (575 ac)	345 ha (860 ac)	1,325 ha (3,270 ac)	2380 ha (5870 ac)	1,565 ha (3,870 ac)	23,290 ha (57,570 ac)	34,880 ha (86,205 ac)
Total	20,170 ha (49,855 ac)	940 ha (2,335 ac)	345 ha (860 ac)	5,180 ha (12,805 ac)	4120 ha (10,165 ac)	1,720 ha (4,260 ac)	41,305 ha (102,080 ac)	73,780 ha (182,360 ac)

Critical habitat includes arroyo toad habitat throughout the species' range in the United States (*i.e.*, Monterey, Santa Barbara, Ventura, Los Angeles, Riverside, San Bernardino, Orange, and San Diego Counties, California). Lands designated are under private, local agency, county, State, Tribal, and Federal ownership. Lands designated as critical habitat have been divided into 22 Critical Habitat Units. A brief description of each unit, and reasons why they are essential for the conservation of the arroyo toad, are presented below. The units are generally based on geographically distinct river basins. In several instances, a river basin has been broken into two or more units based on human or natural landscape features that effectively separate portions of the basin (*e.g.*, a large reservoir or gorge). Based on observations recorded since 1985, each of these units is now occupied by arroyo toads.

Jennings and Hayes (1994) estimate that arroyo toads have lost 76 percent of their historic habitat. Although the linear measure of historically occupied streams may not be four times what is currently occupied, it is clear from museum records and data on extant populations that the habitats capable of supporting large numbers of arroyo toads have decreased dramatically in the last 100 years. The reaches that typically support or historically supported the highest densities of toads are those in the lower and middle portions of river basins, typically associated with third order or larger streams. Many of those reaches have been lost to or degraded by urban development, intensive agriculture, water diversions, sand and gravel mining operations, and reservoirs. For these reasons, we believe all of the areas we are designating may require special management considerations or protection.

Northern Recovery Unit

The following seven critical habitat units are located in the Northern Recovery Unit for the arroyo toad, as discussed in the final recovery plan. Most of the lands are Federally owned, and management needs are being addressed through the section 7 consultation process and the development of management plans and conservation strategies. Because the remaining toad populations have been reduced in size, and the habitat fragmented by road construction, dams, agriculture, and urbanization, it is essential to protect them to reduce further loss of genetic diversity and safeguard against the loss of any one population due to random natural or human-caused events.

Unit 1: San Antonio River, Monterey County

Unit 1 consists of the San Antonio River and adjacent uplands, from about 3 km (2 mi) upstream of the confluence with Mission Creek downstream to San Antonio Reservoir, a distance of about 27 km (17 mi), and includes portions of Mission Creek and other tributaries. The unit encompasses approximately 2,920 ha (7,220 ac), more than 99 percent of which is on the Fort Hunter Liggett Military Reservation. This is the northernmost known population of arroyo toads and is approximately 160 km (100 mi) north of the nearest documented extant population. The protection and recovery of this area are essential to maintain the complete genetic variability of the species and the full range of ecological settings within which it is found.

Unit 2: Sisquoc River, Santa Barbara County

Unit 2 consists of 44 km (27 mi) of the Sisquoc River and adjacent uplands, from Sycamore Campground downstream to just below the confluence with La Brea Creek. The unit encompasses approximately 3,385 ha (8,360 ac), of which 56 percent is private land and 43 percent is within the Los Padres National Forest. Upper stretches of the river are within the National Forest and mostly within the San Rafael Wilderness Area. Below the National Forest boundary, the river and adjacent uplands are on private lands. This long, unregulated stream is occupied arroyo toad habitat and is one of the few remaining major rivers in southern California with a natural flow regime. This area is essential to maintaining genetic diversity of the species. The protection of this population is essential as it is a core population. Arroyo toads from this population may be a suitable source for the reestablishment of populations outside critical habitat on the upper Salinas River, if appropriate habitat can be identified and protected.

Unit 3: Upper Santa Ynez River Basin, Santa Barbara County

Unit 3 is located upstream of Gibraltar Reservoir and incorporates portions of the upper Santa Ynez River, Indian Creek, Mono Creek, and adjacent uplands. The unit encompasses approximately 2,395 ha (5,910 ac) within the boundaries of Los Padres National Forest; 81 percent is on National Forest lands and 19 percent is on private inholdings. Designated portions of the upper Santa Ynez River extend 16 km (10 mi) from Jameson Reservoir downstream to Gibraltar Reservoir. Indian Creek is designated from the Buckthorn Creek confluence down to the Mono Debris Dam, a distance of 8 km (5 mi). Mono Creek and associated uplands are designated for 12 km (7.5 mi) from the first unnamed stream below The Narrows to its confluence with the Santa Ynez River. This area is essential to maintaining genetic diversity of the species. A substantial and well-studied arroyo toad population occurs in this area (Sweet 1992, 1993). It is likely the remnant of a much larger population that historically extended downstream below what is now Lake Cachuma and upstream into the area occupied by Jameson Reservoir. This area has favorable habitat conditions for population expansion and persistence; with the reduction of threats through management, this area should support a larger arroyo toad population.

Unit 4: Sespe Creek, Ventura County

Unit 4 includes 35 km (22 mi) of Sespe Creek and adjacent uplands, from the lower end of Sespe Gorge (elevation approximately 1,075 m (3,530 ft)) downstream to the confluence with Alder Creek. The unit encompasses approximately 2,340 ha (5,800 ac), of which 94 percent is on the Los Padres National Forest and the remainder is in private inholdings. A substantial arroyo toad population occurs in this unit (Service 1999) along an undammed stream in a watershed that is predominately National Forest land. This area is essential to maintaining genetic diversity of the species. It is a core population that can be expanded with appropriate management. In all likelihood, arroyo toad populations in units 4, 5, and 6 historically were part of a large Santa Clara River Basin metapopulation. Ecologically, these units provided a link between the more coastal populations on the Sisquoc and Santa Ynez rivers, and populations in the Desert Recovery Unit. Substantial barriers to toad movement now exist between these units, including dams, agriculture, and urban development.

Unit 5: Piru Creek, Ventura and Los Angeles counties

Unit 5 includes Piru Creek and adjacent uplands from the confluence with Lockwood Creek downstream to Pyramid Reservoir (Subunit 5a), and from Pyramid Dam downstream to Lake Piru (Subunit 5b). Subunit 5b also includes Agua Blanca Creek from Devil's Gateway downstream to the confluence with Piru Creek. The unit

encompasses approximately 2,975 ha (7,345 ac), 92 percent of which is within the Los Padres and Angeles National Forests, with the remaining on private inholdings. A substantial arroyo toad population occurs in this unit (Service 1999), although much of the historical arroyo toad habitat in the area is now inundated by the two reservoirs, this population should expand and become more stable, with appropriate management. Protection and recovery of this population is essential to maintain the range of ecological settings from the coast to the desert.

Unit 6: Upper Santa Clara River Basin, Los Angeles County

Unit 6 includes portions of Castaic and San Francisquito Creeks and adjacent uplands. The unit encompasses approximately 3,360 ha (8,305 ac), of which 68 percent is private land and 30 percent is within the Angeles National Forest. Subunit 6a includes Castaic Creek from Bear Canyon downstream to Castaic Lake and Fish Creek from Cienaga Spring to the confluence with Castaic Creek. Subunit 6b includes Castaic Creek below Castaic Lake to the confluence with the Santa Clara River. Subunit 6c includes San Francisquito Creek from Bee Canyon to the southern end of section 34 in township 5 N, range 16 W. Arroyo toads are found on Castaic Creek both above and below the reservoir, and recent surveys have found evidence of the species on San Francisquito Creek. The arroyo toad population on Castaic has expanded in recent years with changes in management, and San Francisquito Creek offers an excellent opportunity for further expansion. With appropriate management of nonnative plants and animals and habitat rehabilitation, the stability of the Upper Santa Clara River basin arroyo toad population should increase substantially. The Santa Clara River, as managed under the Natural River Management Plan (Valencia Company 1998) and associated conservation easements, is essential because it serves as a dispersal corridor for arroyo toads between Castaic Creek and San Francisquito Creek. This is the easternmost population in the Northern Recovery Unit, and as such provides the final link in the range of ecological settings for this recovery unit.

Unit 7: Upper Los Angeles River Basin, Los Angeles County

Unit 7 includes portions of Big Tujunga, Mill, Alder, and Arroyo Seco creeks, and adjacent uplands. The unit encompasses approximately 3,225 ha (7,970 ac), of which 62 percent is within the Angeles National Forest and 38 percent is private land. Subunit 7a includes 19 km (11.8 mi) of Big Tujunga Creek from below Big Tujunga Dam downstream to Hansen Lake. Subunit 7b encompasses: (1) approximately 13 km (8 mi) of upper Big Tujunga Creek from immediately above Big Tujunga Reservoir upstream to 2 km (1.2 mi) above the confluence with Alder Creek, (2) almost 6 km (3.7 mi) of Mill Creek from the Monte Cristo Creek confluence downstream to Big Tujunga Creek, and (3) 3 km (1.9 mi) of Alder Creek from the Mule Fork confluence downstream to Big Tujunga Creek. Subunit 7c includes 9.5 km (6 mi) Arroyo Seco Creek from the Long Canyon confluence downstream to the upper end of Devil's Gate Reservoir.

Arroyo toads have recently been documented (in the last 5 years) in each of these drainages and, collectively, they represent the only significant known population remaining in the coastal foothills of the San Gabriel Mountains. This unit is essential primarily because it is occupied and contains favorable habitat conditions for major population increases, particularly if the timing of water releases from Big Tujunga Dam can be adjusted to restore the seasonal habitat conditions necessary for successful arroyo toad breeding. In addition, populations in Alder, Mill, and Arroyo Seco creeks extend into high-elevation environments that are atypical for the arroyo toad and may be important to maintaining genetic diversity.

Southern Recovery Unit

The following 12 critical habitat units are located in the Southern Recovery Unit for the arroyo toad, as discussed in the final recovery plan. Arroyo toads probably occurred in and along the coastal plain portions of all the streams in this unit, but are now found on the coastal plain only in units 8, 10, 11, and 12.

Unit 8: Santiago Creek, Orange County

Unit 8 is located just above Irvine Lake where Black Star, Baker, and Silverado creeks join Santiago Creek. The unit encompasses approximately 500 ha (1,235 ac), 99 percent of which is private land; the remainder is within the Cleveland National Forest. A 3 km (1.9 mi) stretch of Black Star Creek and associated uplands are designated from near the southwest corner of Section 30 (T4S, R7W) downstream to Santiago Creek. A 3.5 km (2.2 mi) stretch of lower Baker Canyon is also included, as is approximately 1 km of Santiago Creek. This unit is predominantly within the North Ranch Policy Plan Area within the Orange County Central-Coastal NCCP/HCP. As discussed in more detail below, there is not yet an approved Implementing Agreement or section 10 (a)(1)(B) permit for the take of arroyo toads in the North Ranch Policy Plan Area, so we are including it in this final critical habitat designation. As an artifact of the mapping unit size used to designate critical habitat for the arroyo toad within the North Ranch Policy Plan area, a small portion of the Orange County Central-Coastal NCCP/HCP where take of the arroyo toad has been authorized is within the boundaries of this critical habitat unit. However, due to the conservation assurances and take authorization provided for the arroyo toad in this portion of the critical habitat unit, we hereby exclude it from designation as critical habitat.

With the current status of arroyo toads in this unit is poorly known, they were observed in lower Baker Canyon in 1985 (Robert Fisher, USGS, pers. comm. 1999). Surveys performed along Santiago Creek in 1997 failed to detect arroyo toads (Harmsworth Associates 1998), and reportedly no arroyo toads were detected during year 2000 surveys of Irvine Company land within this unit (Adrian Wolf, pers. comm. 2000). However, high-quality habitat still exists in this area (e.g., Baker Canyon) that likely was not covered in recent survey efforts.

Unit 8 is considered essential because habitat conditions are favorable for population expansion and long-term persistence. Maintaining a population in this unit should also enhance the viability of the larger arroyo toad metapopulation that extends across the lower slopes of the Santa Ana Mountains from Santiago Creek to San Mateo Creek (crossing into Units 10 and 11). We think there are opportunities for movement of individuals between occupied drainages in this area, which would positively influence populations in each drainage.

Unit 9: San Jacinto River and Bautista Creek, Riverside County

Unit 9 includes portions of the San Jacinto River, Indian Creek, Bautista Creek, and adjacent uplands, east of the town of Hemet. The unit encompasses approximately 1,710 ha (4,220 ac), of which 60 percent is private land, 22 percent is within the San Bernardino National Forest, 9 percent is within the Soboba Indian Reservation, and the remaining 9 percent is on other Federal or State owned lands. Subunit 9a covers 11 km (6.8 mi) of the San Jacinto River from the Sand Canyon confluence downstream to just below the confluence with Indian Creek and also includes the lower 1 km (0.6 mi) of

Indian Creek. Subunit 9b covers 11 km (6.8 mi) of Bautista Creek from near the middle of section 20 (T6S, R2E) downstream to near the middle of section 27 (T5S, R1E), where the stream enters a debris basin. In the proposal, we stated that while the current status of arroyo toads in this unit is poorly known, there are historic records from the 1970s and high quality habitat still exists in the area. Surveys conducted in the summer of 2000 confirmed the existence of arroyo toad populations on Bautista Creek (Lisa Lyren, USGS, *in litt.* 2000) and the San Jacinto River (Brock Ortega, Dudek & Associates, pers. comm. 2000) within the San Bernardino National Forest. These populations likely extend downstream onto private and tribal lands.

Approximately 155 ha (390 ac) of the Soboba Indian Reservation are included in this unit. High quality arroyo toad habitat exists within the reservation along lower Indian Creek to its confluence with the San Jacinto River. It is important to maintaining the integrity of the unit. Unit 9 is essential for arroyo toad conservation because it is occupied habitat with favorable conditions for population persistence in an area that is on the southeastern periphery of the species range. Decidedly isolated from other known populations, this is a substantial patch of suitable habitat which supports a population that is important for genetic diversity and has a high likelyhood of persistence.

Unit 10: San Juan and Trabuco Creeks, Orange and Riverside counties

Unit 10 includes portions of San Juan Creek, Bell Canyon, Trabuco Creek, and adjacent uplands. The unit encompasses approximately 3,745 ha (9,270 ac), of which 56 percent is private land, 29 percent is Orange County park land (Caspers Wilderness Park and O'Neill Regional Park), and 15 percent is on the Cleveland National Forest. Subunit 10a covers approximately 30 km (18.6 mi) of San Juan Creek from the bottom of Decker Canyon downstream to Interstate 5 and includes about 4 km (2.5 mi) of Bell Canyon from just below Crow Canyon downstream to the confluence with San Juan Creek. Subunit 10b covers approximately 8 km (5 mi) of Trabuco Creek from Falls Canyon downstream to the lower end of O'Neill County Park.

San Juan and Bell creeks are essential for conservation of the arroyo toad because they support a large core population, which is concentrated within Caspers Wilderness Park and private lands downstream (P. Bloom, *in litt.*). The designated stretch of Trabuco Creek is considered essential because it is currently occupied by arroyo toads (D. Holland, pers. comm.) and conditions there are favorable for population persistence. A population in this area should also help maintain connectivity between toads in Santiago Creek to the north and Bell Canyon to the south.

Unit 11: San Mateo Basin, San Diego and Orange counties

Unit 11 includes portions of San Mateo, Christianitos, Talega, Gabino, and La Paz creeks, and adjacent uplands. The unit encompasses approximately 1,820 ha (4,495 ac), of which 54 percent is within portions of the Camp Pendleton Marine Corps Base that are leased to outside parties for other land uses (i.e. San Onofre State Park and agricultural lands) and 43 percent is on private land. Portions of Camp Pendleton outside of the leased lands are excluded. Two disjunct sections of San Mateo Creek are included: Subunit 11b covers approximately 2 km (1.2 mi) within the Cleveland National Forest near Devils Canyon, and subunit 11a extends about 5 km (3.1 mi) from the Christianitos Creek confluence downstream to just below Interstate 5. Portions of Christianitos Creek are designated from just above Gabino Creek downstream to the confluence with San Mateo Creek. Approximately 5 km (3.1 mi) of Gabino Creek upstream from its confluence with Christianitos Creek are designated, including about 1 km (0.6 mi) of La Paz Creek. The unit also includes approximately 7 km (4.4 mi) of Talega Creek upstream from its confluence with Christianitos Creek and beyond the boundaries of Camp Pendleton.

San Mateo and Christianitos creeks support large core populations (Holland and Goodman 1998) and are essential to conservation of the species. An unusual and potentially important aspect of this unit is its close proximity to the coast. Historically, there were probably many near-coast populations, but few remain due to extensive urbanization and river channelization. Distinctive climatic conditions near the coast may provide different selective pressures on toads in this area, potentially favoring specific genetic characteristics.

Unit 12: Lower Santa Margarita River, San Diego County

Unit 12 includes approximately 20 km (12.4 mi) of the Santa Margarita River and adjacent uplands, from the lower end of Temecula Canyon to the boundary of Camp Pendleton (Subunit 12b) and almost 4 km of De Luz Creek from the town of De Luz to the boundary of Camp Pendleton (Subunit 12A). The unit encompasses approximately 1245 ha (3075 ac), of which 30 percent is within the Fallbrook Naval Weapons Station and 70 percent is on private land. Land within the Camp Pendleton Marine Corps Base is excluded from this unit (see Discussion in Exclusion Under Section 4(b)(2)).

Recent surveys of the Santa Margarita River and De Luz Creek immediately downstream of this unit have documented what is probably the largest known population of arroyo toads (Holland and Goodman 1998). Portions of these drainages within this unit are also occupied and considered essential because they supplement and adjoin the large population on Camp Pendleton and potentially provide connectivity to populations in the upper Santa Margarita River basin.

Unit 13: Upper Santa Margarita River Basin, Riverside and San Diego counties

Unit 13 is located above Vail Lake and includes portions of Temecula Creek, Wilson Creek, Arroyo Seco Creek, and adjacent uplands. The unit encompasses approximately 4,695 ha (11,610 ac), of which 89 percent is private land and 10 percent is within the Cleveland National Forest. Approximately 25 km (15.5 mi) of Temecula Creek are designated from Dodge Valley downstream to Vail Lake. The unit also includes 6 km (3.7 mi) of Wilson Creek from Lancaster Valley down to Vail Lake and 11 km (6.8 mi) of Arroyo Seco Creek from Crosley Homestead down to Vail Lake.

The broad, flat alluvial valleys found in this unit contain high-quality habitat for arroyo toads. The unit is essential because there are documented occurrences in Temecula, Wilson, and Arroyo Seco creeks, and habitat conditions are favorable for population expansion and long-term persistence.

Unit 14: Lower and Middle San Luis Rey River Basin, San Diego County

Unit 14 includes portions of the San Luis Rey River below Lake Henshaw and adjacent uplands, and includes sections of Pala and Keys creeks. The unit encompasses approximately 7,470 ha (18,455 ac), of which 79 percent is private land and 18 percent is Tribal land. Approximately 48 km (30 mi) of the San Luis Rey River are designated 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 5.5 km (3.4 mi) of Pala Creek and 2.7 km (1.7 mi) of Keys Creek

upstream from the confluence with the San Luis Rey River.

This long, low-elevation (all below 305 m (1,000 ft) in elevation) unit, situated in a broad, flat valley, is essential to arroyo toad conservation because it supports a large core population that, provided threat factors can be addressed, is capable of long-term persistence. Some of the best arroyo toad habitat in this unit occurs within the Pala and Rincon Indian Reservations.

The San Luis Rey River provides important high quality habitat for the arroyo toad. However, intensive urbanization and agriculture near the coast, and dams and water diversions in the upper end, have reduced habitat quality in the upper and lower portions of this unit. Approximately 18 percent of the identified remaining suitable habitat along the San Luis Rey is on Tribal land. The Pala and Rincon Reservations support broad alluvial floodplains that contain high quality habitat and recent surveys have documented a substantial arroyo toad concentration on both reservations. If habitats on these reservations are lost, the remaining population would be highly fragmented and vulnerable to extirpation.

Unit 15: Upper San Luis Rey Basin, San Diego County

Unit 15 includes the upper San Luis Rey River above Lake Henshaw, two of its headwater tributaries, and adjacent uplands. The unit encompasses approximately 4,525 ha (11,180 ac), of which 80 percent is private land and 20 percent is within the Cleveland National Forest. This unit consists of two subunits. Subunit 15a covers almost 14 km (8.7 mi) of the upper San Luis Rey River from the Indian Flats area downstream to the upper end of Lake Henshaw and includes about 12.5 km (7.8 mi) of Agua Caliente Creek from the western edge of section 13 (T10S, R3E) to the confluence with the San Luis Rey. Subunit 15b includes approximately 2.5 km (1.6 mi) of the West Fork of the San Luis Rey River where it runs through Barker Valley. Arroyo toads occur in each of these drainages, with the largest concentration found along Agua Caliente Creek.

This unit is essential because it contains a unique assemblage of several small, disjunct, high-elevation populations and one large, core population (on Agua Caliente Creek) in an area where in-stream and/or overland dispersal between populations is probably still possible.

Unit 16: Santa Ysabel Creek, San Diego County

Unit 16 includes portions of Santa Ysabel Creek and adjacent uplands, and includes portions of Santa Maria Creek, Guejito Creek, and Temescal Creek (Pamo Valley). The unit encompasses approximately 4,670 ha (11,545 ac), of which 87 percent is private land and 11 percent is within the Cleveland National Forest. The unit consists of three subunits. Subunit 16a includes approximately 13 km (8 mi) of Santa Ysabel Creek and adjacent uplands from Sutherland Reservoir downstream to the western boundary of the Cleveland National Forest near Boden Canyon (which is the eastern boundary of the San Diego MSCP area). Subunit 16a also includes approximately 7 km (4.3 mi) of Temescal Creek from the northern edge of Pamo Valley to the confluence with Santa Ysabel Creek. Subunit 16b includes approximately 12 km (7.5 mi) of Guejito Creek from the 610 m (2,000 ft) elevation contour downstream to the San Diego MSCP boundary near San Pasqual Valley. Subunit 16c covers approximately 10 km (6 mi) of Santa Maria Creek from the west side of Ramona to the San Diego MSCP boundary near San Pasqual Valley.

All of the drainages included in this unit are occupied by arroyo toads, and a large population exists along Temescal and Santa Ysabel creeks within Pamo Valley. This unit is essential to arroyo toad conservation because it supports a large core population and contains several additional populations that can remain viable and interconnected. This unit also provides an important linkage and genetic interchange with a core arroyo toad population in San Pasqual Valley, within the San Diego MSCP area.

Unit 17: San Diego River/San Vicente Creek, San Diego County

Unit 17 includes portions of the San Diego River and San Vicente Creek and adjacent uplands. The unit encompasses approximately 1,595 ha (3,935 ac), of which 75 percent is private land, 17 percent is within the Cleveland National Forest, and 6 percent is Tribal land. The unit is broken into four subunits—three disjunct sections of the San Diego River and one section of San Vicente Creek. Subunit 17a includes approximately 8 km (5 mi) of the San Diego River from Ritchie Creek downstream to the upper edge of El Capitan Reservoir and approximately 1 km (0.6 mi) of lower Cedar Creek. Subunit 17b includes 1.5 km (0.9 mi) of the San Diego River from El Capitan Reservoir to El Monte County Park. Subunit 17c covers almost 7 km (4.3 mi) of the San Diego River from approximately 2 km (1.2 mi) below El Monte County Park downstream to the confluence with San Vicente Creek. Subunit 17d includes 3.9 km (2.4 mi) of San Vicente Creek from the west side of San Diego Country Estates downstream to where the creek crosses Wildcat Canyon Road (the MSCP area boundary).

The upper San Diego River and San Vicente Creek are both occupied by arroyo toads. This unit is essential to arroyo toad conservation because it encompasses several significant populations and includes suitable habitat for population expansion, which increases the probability of long-term persistence. It also provides an important linkage to populations occurring within the San Diego MSCP area. Approximately 100 ha (245 ac) of the Capitan Grande Indian Reservation at the upper end of El Capitan Reservoir are included in this unit. High quality riparian and alluvial terrace habitats occur within the Reservation and they are important portions of the unit.

Unit 18: Sweetwater River Basin, San Diego County

Unit 18 includes portions of the Sweetwater River, Peterson Canyon, Viejas Creek, and adjacent uplands. The unit encompasses approximately 5,065 ha (12,540 ac), of which 55 percent is private land, 22 percent is on California State Park land, 13 percent is within the Cleveland National Forest, and 7 percent is on the San Diego National Wildlife Refuge. The unit is broken into four subunits—three disjunct sections of the Sweetwater River and one section of Viejas Creek. Subunit 18a covers approximately 32 km (20 mi) of the Sweetwater River from the top of Upper Green Valley in Cuyamaca Rancho State Park downstream to the San Diego MSCP area boundary. Subunit 18b includes approximately 1.2 km (0.7 mi) of the Sweetwater River between the MSCP boundary and Loveland Reservoir and 2.4 km (1.5 mi) of Peterson Canyon from just east of the Taylor Creek confluence downstream to the top of Loveland Reservoir. Subunit 18c encompasses approximately 26 km (16 mi) of the Sweetwater River, within the MSCP boundary, from immediately below Loveland Dam downstream to the upper edge of Sweetwater Reservoir. Subunit 18d covers 3.2 km (2 mi) of Viejas Creek and associated uplands from the western end of Viejas Valley downstream to the Congressional boundary of the Cleveland National Forest (which is the eastern boundary of the San Diego MSCP area).

The unit is essential to arroyo toad conservation because it supports several significant populations that can remain viable, and hopefully interconnected, over the long-term, provided suitable habitat conditions are maintained. The unit includes approximately 30 ha (80 ac) of the Viejas Indian Reservation along its southwestern boundary, and 40 ha (100 ac) on the south side of the Sycuan Indian Reservation. High quality riparian and alluvial terrace habitats occur along Viejas Creek (Viejas Reservation) and the lower part of Sycuan Creek (Sycuan Reservation) .

Unit 19: Cottonwood Creek Basin, San Diego County

Unit 19 includes portions of Cottonwood Creek, adjacent uplands, and portions of the following tributaries: Potrero Creek, Pine Valley Creek, Scove Canyon, Morena Creek, La Posta Creek, and Kitchen Creek. This large unit encompasses approximately 7,990 ha (19,740 ac), of which 41 percent is within the Cleveland National Forest, 46 percent is private land, and 11 percent is on land owned by San Diego County. The unit consists of four disjunct subunits—two sections of Cottonwood Creek and two sections of Pine Valley Creek. Subunit 19a covers 13 km (8 mi) of Cottonwood Creek from Buckman Springs (near Interstate 8) downstream to Morena Reservoir and includes approximately 6 km (3.7 mi) of La Posta Creek, 6 km (3.7 mi) of Morena Creek, and 2.5 km (1.6 mi) of Kitchen Creek. Subunit 19b covers almost 16 km (9.9 mi) of Cottonwood Creek from approximately 4 km (2.5 mi) below Morena Reservoir downstream to State Highway 94 (excluding Barrett Reservoir) and includes 15 km (9.3 mi) of Potrero Creek from approximately the 752 m (2,466 ft) elevation benchmark downstream to the confluence with Cottonwood Creek. Subunit 19c covers about 12 km (7.5 mi) of Pine Valley Creek from the north edge of section 12 (T15S, R4E) downstream to approximately 1 km (0.6 mi) south of Interstate 8 and includes approximately 4 km (2.5 mi) of Scove Canyon and 1 km (0.6 mi) of Noble Creek. Subunit 19d encompasses 13 km (8 mi) of Pine Valley Creek from the Nelson Canyon confluence downstream to Barrett Reservoir.

This unit encompasses a large number of distinct arroyo toad occurrences in an area where in-stream and/or overland dispersal between populations is probably still possible. It also provides an important linkage to populations occurring within the San Diego MSCP area. The unit is essential to arroyo toad conservation because it encompasses several large, populations and includes suitable habitat for population expansion, which increases the probability of long-term persistence.

Desert Recovery Unit

The following four critical habitat units are in the Desert Recovery Unit as described in the final recovery plan. Each of these units is isolated from each other and from any other units, making the issues of inbreeding, fragmentation, and random negative impacts of great concern. However, this unit also represents unique ecological conditions for arroyo toads, and possibly harbor significant genetic diversity.

Unit 20: Little Rock Creek, Los Angeles County

Unit 20 includes approximately 9.5 km (5.9 mi) of Little Rock Creek and adjacent uplands, from the South Fork confluence downstream to the upper end of Little Rock Reservoir (in the vicinity of Rocky Point Picnic Ground), and approximately 1.8 km (1.1 mi) of Santiago Creek and adjacent uplands upstream from the confluence with Little Rock Creek. The unit encompasses approximately 600 ha (1,480 ac), all of which is within the Angeles National Forest. Studies are currently under way to better determine the distribution of the arroyo toad population along the creek, monitor recruitment, and assess upland habitat use (Ramirez 2000).

Unit 20 is essential for arroyo toad conservation because it supports a unique, isolated population on the periphery of the species' range. If a natural hydrologic regime can be maintained and impacts from recreation activities can be minimized, the area has favorable habitat conditions for the persistence of a small, but viable, population.

Unit 21: Upper Mojave River Basin, San Bernardino County

Unit 21 includes portions of the Mojave River, the West Fork of the Mojave River, Horsethief and Little Horsethief creeks, Deep Creek, and adjacent uplands. The unit encompasses approximately 6,685 ha (16,520 ac), of which 17 percent is within the San Bernardino National Forest, 60 percent is private land, 8 percent is State or local public land, and 14 percent is U.S. Army Corps of Engineers-managed land associated with a flood control reservoir. The unit is divided into three separate subunits. Subunit 21a includes: (1) approximately 18 km (9.3 mi) of Deep Creek from near Holcomb Creek downstream to the confluence with the West Fork, (2) approximately 6.5 km (4 mi) of Little Horsethief Creek from near the western edge of section 28 (T3N, R5W) downstream to the confluence with Horsethief Creek, (3) approximately 5.5 km (3.4 mi) of Horsethief Creek from the Little Horsethief Creek confluence downstream to the West Fork confluence, (4) just over 7 km (4.3 mi) of the West Fork of the Mojave River from the Horsethief Creek confluence downstream to Mojave River Forks Dam, and (5) approximately 4 km (2.5 mi) of the Mojave River below Mojave River Forks Dam.

Subunit 21b includes approximately 18 km (11 mi) of the Mojave River from just above the Upper Narrows (section 14, T5N, R4W) downstream to approximately 6 km (3.7 mi) below the Lower Narrows (section 13, T6N, R5W). Subunit 21c includes almost 3 km (1.9 mi) of the upper West Fork of the Mojave River, above Silverwood Lake, from near the 1462 m (3,613 ft) elevation benchmark downstream to the upper end of the lake.

All of the designated drainages in this unit are occupied by arroyo toads. Summit Valley, which encompasses the lower portions of Horsethief Creek and the West Fork of the Mojave River, is a broad, flat, alluvial valley that supports a substantial arroyo toad population (Ramirez 1999).

Unit 21 is essential to arroyo toad conservation because it supports the largest population of the species on the desert side of the mountains. If adequate streamflows and upland alluvial habitats can be maintained, this is the one desert unit that has favorable conditions for long-term persistence of a large toad population.

Unit 22: Whitewater River, Riverside County

Unit 22 includes approximately 9.5 km (5.9 mi) of the Whitewater River and adjacent uplands, from near Red Dome downstream to where the Colorado River Aqueduct crosses the river (south half of section 2, T3S, R3E). The unit encompasses approximately 865 ha (2,150 ac), of which 62 percent is BLM land and 38 percent is private land. The current status of arroyo toads in this unit is poorly known. They were observed and photographed in the drainage in 1992 (Jennings and Hayes 1994), but were not relocated in surveys conducted during the 2000 breeding season (Jones & Stokes 2000). However, 2000 was generally a bad year for arroyo toad breeding activity, particularly in the southern half of the species range, because of below average precipitation and subsequent low streamflows. Given the relatively recent documentation of arroyo toads in this drainage, and the

continued presence of suitable habitat in the area, we belive it is likely that this unit is still occupied.

Unit 22 is essential for arroyo toad conservation because it supports a unique, isolated desert population on the eastern periphery of the species' range. Also, if a natural hydrologic regime can be maintained and impacts from recreation activities can be minimized, the area has favorable habitat conditions for the persistence of a small, but viable, population.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat to the extent that the action appreciably diminishes the value of the critical habitat for the survival and recovery of the species. Individuals, organizations, states, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding.

Section 7(a) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act, requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory. If a species is listed or critical habitat is designated, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, we would ensure that the permitted actions do not destroy or adversely modify critical habitat.

When we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. ''Reasonable and prudent alternatives'' are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat. Conference reports assist the agency in eliminating conflicts that may be caused by the proposed action, and may include recommendations on actions to eliminate conflicts with or adverse modifications to proposed critical habitat. The conservation recommendations in a conference report are advisory.

We may issue a formal conference report if requested by a Federal agency. Formal conference reports on proposed critical habitat contain an opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as the biological opinion when the critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)).

Activities on Federal lands that may affect the arroyo toad or its critical habitat will require section 7 consultation. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the Army Corps under section 404 of the Clean Water Act, a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (*e.g.*, Federal Highway Administration or Federal Emergency Management Agency funding), will also continue to be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal and private lands that are not federally funded, authorized, or permitted do not require section 7 consultation.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat include those that appreciably reduce the value of critical habitat for both the survival and recovery of the arroyo toad. Within critical habitat, this pertains only to those areas containing primary constituent elements. We note that such activities may also jeopardize the continued existence of the species.

To properly portray the effects of critical habitat designation, we must first compare the section 7 requirements for actions that may affect critical habitat with the requirements for actions that may affect a listed species. Section 7 prohibits actions funded, authorized, or carried out by Federal agencies from jeopardizing the continued existence of a listed species or destroying or adversely modifying the listed species' critical habitat. Actions likely to ''jeopardize the continued existence'' of a species are those that would appreciably reduce the likelihood of the species' survival and recovery. Actions likely to ''destroy or adversely modify'' critical habitat are those that would appreciably reduce the value of critical habitat for the survival and recovery of the listed species.

Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species. Given the similarity of these definitions, actions likely to destroy or adversely modify critical habitat would almost always result in jeopardy to the species concerned, particularly when the area of the proposed action is occupied by the species concerned. Designation of critical habitat in areas occupied by the arroyo toad is not likely to result in a regulatory burden above that already in place due to the presence of the listed species.

Federal agencies already consult with us on activities in areas currently occupied by the species to ensure that their actions do not jeopardize the continued existence of the species. These actions include, but are not limited to:

(1) Regulation of activities affecting waters of the United States by the Army Corps under section 404 of the Clean Water Act;

(2) Regulation of water flows, damming, diversion, and channelization by any Federal agency;

(3) Road construction and maintenance, right-of-way designation, and regulation of agricultural activities on Federal lands (such as those managed by the Service, Forest Service, DOD, or BLM);

(4) Regulation of grazing, mining, and recreation by the BLM, DOD, Army Corps, or Forest Service;

(5) Regulation of airport improvement activities by the Federal Aviation Administration;

(6) Military training and maneuvers, facilities operations and maintenance on Fort Hunter Liggett and other applicable DOD lands;

(7) Construction of roads and fences along the international border with Mexico, and associated immigration enforcement activities by the Immigration and Naturalization Service (INS);

(8) Licensing of construction of communication sites by the Federal Communications Commission; and,

(9) Funding of activities by the U.S. Environmental Protection Agency, Department of Energy, Federal Emergency Management Agency, Federal Highway Administration, or any other Federal agency.

All lands designated as critical habitat are within the geographic range of the species occupied by the species and are likely to be used by the arroyo toad, whether for foraging, breeding, growth of larvae and juveniles, intra-specific communication, dispersal, migration genetic exchange and sheltering. Thus, we consider all critical habitat units to be occupied by the species. Federal agencies already consult with us on activities in areas currently occupied by the species or if the species may be affected by the action to ensure that their actions do not jeopardize the continued existence of the species. Thus, we do not anticipate additional regulatory protection will result from critical habitat designation.

Exclusions Under Section 3(5)(A) Definition

The Sikes Act Improvement Act of 1997 (Sikes Act) requires each military installation that includes land and water suitable for the conservation and management of natural resources to complete, by November 17, 2001, an Integrated Natural Resources Management Plan (INRMP). An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes an assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. We consult with the military on the development and implementation of INRMPs for installations with listed species. We believe that bases that have completed and approved INRMPs that address the needs of the species generally do not meet the definition of critical habitat discussed above, as they require no additional special management or protection.

Therefore, we do not include these areas in critical habitat designations if they meet the following three criteria: (1) A current INRMP must be complete and provide a conservation benefit to the species; (2) the plan must provide assurances that the conservation management strategies will be implemented; and (3) the plan must provide assurances that the conservation management strategies will be effective, by providing for periodic monitoring and revisions as necessary. If all of these criteria are met, then the lands covered under the plan would not meet the definition of critical habitat. As the bases where we identified habitat essential for the conservation of the arroyo toad, including Marine Corps Base Camp Pendleton, Fallbrook Naval Weapons Reserve, and Fort Hunter Liggett, do not have INRMPs that meet the criteria, we did not exclude them under the section 3(5)(A) definition.

Exclusions Under Section 4(b)(2)

Subsection 4(b)(2) of the Act allows us to exclude areas from critical habitat designation where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. For the following reasons, we believe that in most instances the benefits of excluding HCPs from critical habitat designations will outweigh the benefits of including them.

(1) Benefits of Inclusion

The benefits of including HCP lands in critical habitat are normally small. The principal benefit of any designated critical habitat is that activities in such habitat that may affect it require consultation under section 7 of the Act. Such consultation would ensure that adequate protection is provided to avoid adverse modification of critical habitat. Where HCPs are in place, our experience indicates that this benefit is small or non-existent. Currently approved and permitted HCPs are already designed to ensure the long-term survival of covered species within the plan area. Where we have an approved HCP, lands that we ordinarily would define as critical habitat for the covered species will normally be protected in reserves and other conservation lands by the terms of the HCPs and their implementation agreements. These HCPs and implementation agreements include management measures and protections for conservation lands that are crafted to protect, restore, and enhance their value as habitat for covered species.

In addition, an HCP application must itself be consulted upon. While this consultation will not look specifically at the issue of adverse modification of critical habitat, it will look at the very similar concept of jeopardy to the listed species in the plan area. Because HCPs, particularly large regional HCPs, address land use within the plan boundaries, habitat issues within the plan boundaries will have been thoroughly addressed in the HCP and through the consultation on the HCP. Our experience is also that, under most circumstances, consultations under the jeopardy standard will reach the same result as consultations under the adverse modification standard. Implementing regulations (50 CFR part 402) define ''jeopardize the continued existence of'' and ''destruction or adverse modification of'' in virtually identical terms. ''Jeopardize the continued existence of'' means to engage in an action ''that reasonably would be expected to reduce appreciably the likelihood of both the survival and recovery of a listed species.'' Destruction or adverse modification means an alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.'' Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species, in the case of critical habitat by reducing the value of the habitat so designated. Thus, actions satisfying the standard for

adverse modification are nearly always found to also jeopardize the species concerned, and the existence of a critical habitat designation does not materially affect the outcome of consultation. Additional measures to protect the habitat from adverse modification are not likely to be required.

Further, HCPs typically provide for greater conservation benefits to a covered species than section 7 consultations because HCPs assure the long term protection and management of a covered species and its habitat, and funding for such management through the standards found in the 5-Point Policy for HCPs (64 FR 35242) and the HCP No Surprises regulation (63 FR 8859). Such assurances are typically not provided by section 7 consultations which, in contrast to HCPs, often do not commit the project proponent to long term special management or protections. Thus, a consultation typically does not accord the lands it covers the extensive benefits an HCP provides.

The development and implementation of HCPs provide other important conservation benefits, including the development of biological information to guide conservation efforts and assist in species recovery and the creation of innovative solutions to conserve species while allowing for development. The educational benefits of critical habitat, including informing the public of areas that are important for the long-term survival and conservation of the species, are essentially the same as those that would occur from the public notice and comment procedures required to establish an HCP, as well as the public participation that occurs in the development of many regional HCPs. For these reasons, then, we believe that designation of critical habitat has little benefit in areas covered by HCPs.

(2) Benefits of Exclusion

The benefits of excluding HCPs from being designated as critical habitat may be more significant. During two public comment periods on our critical habitat policy, we received several comments about the additional regulatory and economic burden of designating critical habitat. These include the need for additional consultation with the Service and the need for additional surveys and information gathering to complete these consultations. HCP applicants have also stated that they are concerned that third parties may challenge HCPs on the basis that they result in adverse modification or destruction of critical habitat, should critical habitat be designated within the HCP boundaries.

The benefits of excluding HCPs include relieving landowners, communities and counties of any additional minor regulatory review that might be imposed by critical habitat. Many HCPs, particularly large regional HCPs, take many years to develop and, upon completion, become regional conservation plans that are consistent with the recovery of covered species. Most regional plans benefit many species, both listed and unlisted. Imposing an additional regulatory review after HCP completion may jeopardize conservation efforts and partnerships in many areas and could be viewed as a disincentive to those developing HCPs. Excluding HCPs provides us with an opportunity to streamline regulatory compliance and confirms regulatory assurances for HCP participants.

A related benefit of excluding HCPs is that it would encourage the continued development of partnerships with HCP participants, including states, local governments, conservation organizations, and private landowners, that together can implement conservation actions we would be unable to accomplish alone. By excluding areas covered by HCPs from critical habitat designation, we preserve these partnerships and, we believe, set the stage for more effective conservation actions in the future.

In general, then, we believe the benefits of critical habitat designation to be small in areas covered by approved HCPs. We also believe that the benefits of excluding HCPs from designation are significant. Weighing the small benefits of inclusion against the benefits of exclusion, including the benefits of relieving property owners of an additional layer of approvals and regulation, together with the encouragement of conservation partnerships, would generally result in HCPs being excluded from critical habitat designation under Section 4(b)(2) of the Act.

Not all HCPs are alike with regard to species coverage and design. Within this general analytical framework, we need to evaluate completed and legally operative HCPs in the range of the arroyo toad on a case-by-case basis to determine whether the benefits of excluding these particular areas outweigh the benefits of including them.

Relationship to Habitat Conservation Plans

Section 4(b)(2) of the Act allows us broad discretion to exclude from critical habitat designation areas where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We expect that critical habitat may be used as a tool to identify those areas essential for the conservation of the species, and we will encourage development of Habitat Conservation Plans (HCPs) for such areas on non-Federal lands. Habitat conservation plans currently under development are intended to provide for protection and management of habitat areas essential for the conservation of the arroyo toad, while directing development and habitat modification to nonessential areas of lower habitat value.

A number of habitat conservation planning efforts have been completed within the range of the arroyo toad. Principal among these are the NCCP/HCP efforts in San Diego and Orange counties. The San Diego MSCP, and its approved subarea plans, provide measures to conserve known populations of the arroyo toad within Santa Ysabel Creek in San Pasqual Valley, San Vicente Creek above San Vicente Reservoir, Sweetwater River, Otay River, and Cottonwood Creek in Marron Valley. Area-specific management directives for MSCP subarea plans must address the conservation of the arroyo toad by protecting and maintaining sufficient, suitable low-gradient sandy stream habitat to meet breeding requirements, preserving sheltering and foraging habitats within 1 km (0.6 mi) of occupied breeding habitat within designated preserve lands, controlling nonnative predators, and controlling human impacts within designated preserves. Several of these plans are currently under development, including ones for Marron and San Pasqual valleys.

One exception to the HCP exclusion concerns the reach of the Sweetwater River between Loveland and Sweetwater Reservoirs within the County of San Diego's MSCP plan. This area is affected by activities (e.g., reservoir water transfers) that are outside the authority of and, therefore, are not subject to the approved County's MSCP plan. Therefore, we have included this limited reach of the Sweetwater River as critical habitat.

We have also approved the Orange County Central Coastal NCCP/HCP, which will result in the conservation of 15,677 ha (38,738 ac) of Reserve lands, including habitat suitable for the arroyo toad. We issued an incidental take permit under section 10(a)(1)(B) of the Act that provides conditional incidental take authorization for the arroyo toad for all areas within the Central-Coastal Subregion except the North Ranch

Policy Plan area. This take authorization only applies to smaller arroyo toad populations, reintroduced populations or populations that have expanded due to NCCP Reserve management and requires implementation of a mitigation plan to relocate toads to protected areas within the Reserve.

The North Ranch Policy Plan area was excluded from the take authorization provided by the Central Coastal NCCP/HCP due to a lack of detailed biological information and specific conservation commitments at the time of adoption of the NCCP/HCP. Further, the NCCP/HCP does not require future adoption of a management plan for the North Ranch Policy Plan area. We have determined that available arroyo toad habitat within the North Ranch Policy Plan area is essential to the conservation of the arroyo toad by helping to support a viable Santa Ana Mountain arroyo toad population. Because the NCCP/HCP affords no long term conservation commitments for this area, we have included a portion of the North Ranch Policy Plan area as critical habitat.

The benefits of excluding lands covered by these HCPs would be significant in preserving positive relationships with our conservation partners, lessening potential additional regulatory review and potential economic burdens, reinforcing the regulatory assurances provided for in the implementation agreements for the approved HCPs, and providing for more established and cooperative partnerships for future conservation efforts.

In summary, the benefits of including these HCPs in critical habitat for the arroyo toad include increased educational benefits and minor additional management protections and measures. The benefits of excluding HCPs from being designated as critical habitat for the arroyo toad include the additional conservation measures for the arroyo toad and other listed species, preservation of partnerships that may lead to future conservation, and the avoidance of the minor regulatory and economic burdens associated with the designation of critical habitat. The benefits of excluding these areas from critical habitat designation outweigh the benefits of including these areas. Furthermore, we have determined that these exclusions will not result in the extinction of the species. We have already completed section 7 consultation on the impacts of these HCPs on the species. We have determined that they will not jeopardize the continued existence of the species, which means that they will not appreciably reduce likelihood of the survival and recovery of the species. Consequently, these lands have not been designated as critical habitat for the arroyo toad.

Habitat conservation plans currently under development are intended to provide for protection and management of habitat areas essential for the conservation of the arroyo toad, while directing development and habitat modification to nonessential areas of lower habitat value. The HCP development process provides an opportunity for more intensive data collection and analysis regarding the use of particular habitat areas by the arroyo toad. The process also enables us to conduct detailed evaluations of the importance of such lands to the long-term survival of the species in the context of constructing a biologically configured system of interlinked habitat blocks. We fully expect that HCPs undertaken by local jurisdictions (e.g., counties, cities) and other parties will identify, protect, and provide appropriate management for those specific lands within the boundaries of the plans that are essential for the long-term conservation of the species. We believe and fully expect that our analyses of proposed HCPs and proposed projects under section 7 will show that covered activities carried out in accordance with the provisions of the HCPs and biological opinions will not result in destruction or adverse modification of critical habitat.

We will provide technical assistance and work closely with applicants throughout the development of future HCPs to identify lands essential for the long-term conservation of the arroyo toad and appropriate conservation and management actions. Several HCP efforts are currently under way that address listed and nonlisted species in areas within the range of the arroyo toad and in areas we propose as critical habitat. The take minimization and mitigation measures provided under these HCPs are expected to protect the essential habitat lands designated as critical habitat in this rule and provide for the conservation of the covered species. If an HCP that addresses the arroyo toad is ultimately approved, the Service will reassess the critical habitat boundaries in light of the HCP. The Service will seek to undertake this review when the HCP is approved, but funding constraints may influence the timing of such a review.

During the public comment period for the proposal, Marine Corps Base Camp Pendleton (Camp Pendleton) submitted comments concluding that critical habitat designation on the base is unnecessary based on existing Marine Corps management plans that provide adequate special management and protection for the species. Arroyo toad numbers on Camp Pendleton are significant and are inclusive of the few remaining populations along the coastal plain. In light of these factors, we proposed 15,445 ha (38,150 ac) of the approximately 50,000 ha (125,000 acre) base as critical habitat for the arroyo toad.

Camp Pendleton's programmatic conservation plan for riparian and estuarine/beach ecosystems does not address arroyo toads in upland habitats. Moreover, the programmatic instructions and conservation measures in the plan need to be revised to avoid and minimize potential adverse effects to the arroyo toad. As the Service indicated in a letter dated February 9, 2000, these revisions include, ''but are not limited to, implementation of a base-wide non-native predatory species control program, removal of non-essential road crossings, modification of existing and new road crossings, removal of unnecessary structures and hardscape within arroyo toad breeding and non-breeding habitats, and guidelines on the use of toad exclusion fencing.'' To address endangered and threatened species issues within upland habitats on base, on March 30, 2000, at the request of the Marines, we initiated formal consultation with Camp Pendleton on their uplands activities. These activities include military training, maintenance, fire management, real estate, and recreation programs. Because of the immense complexity of dealing with a multitude of hard-to-define upland activities and numerous federally listed plants and animals, we expect completion of the consultation and issuance of our biological opinion to take several months to a year. Upon completion, this consultation will address the 93 percent of the base not included in our 1995 opinion concerning the base's programmatic conservation plan for riparian and estuarine/beach ecosystems (U.S. Fish and Wildlife Service 1995).

The proposal included upland and riparian habitats within key training areas on Camp Pendleton that represent about 30 percent of the base. If this area is included in the final designation of critical habitat for the arroyo toad, the Marines would be compelled by their interpretation of the Endangered Species Act to significantly curtail necessary training within the area designated as critical habitat, to the detriment of mission-critical training capability, until the programmatic uplands consultation is concluded, up to a year from now. Avoiding areas

designated as critical habitat would greatly restrict use of the base, severely limiting the Camp Pendleton's utility as a Marine training site. The Marines have no alternative site suitable for the kinds of training that occur on the base.

In contrast, the benefits of designating critical habitat on the base now are small. The primary benefit of designation is the prohibition on destruction or adverse modification of critical habitat under section 7 of the Act. However, we believe that section 7 consultation on any proposed action on the base that would result in an adverse modification conclusion would also result in a jeopardy conclusion, and we are now engaged in formal consultation with the Marines on their activities in upland habitats on the Camp Pendleton. In addition, the Marines have a statutory obligation under the Sikes Act to complete an INRMP for Camp Pendleton about 10 months from now; we expect that, when completed and adopted, this INRMP will provide equal or greater protection to arroyo toad habitat on the base than a critical habitat designation.

The INRMP for Camp Pendleton will be completed by the statutory deadline of November 17, 2001. We will consult with the Marines under section 7 of the Act on the development and implementation of the INRMP. Today, as neither the INRMP nor the programmatic uplands consultation have yet to be completed and approved, the lands proposed as arroyo toad critical habitat on the base still meet the definition of critical habitat. Nevertheless, we conclude that the benefits of excluding Camp Pendleton exceed the benefits of including the base in the critical habitat designation; further, we have determined that excluding the base will not result in the extinction of the arroyo toad, as numerous areas supporting arroyo toad populations remain within the final critical habitat designation and sections 7(a)(2) and 9 still apply to the activities affecting arroyo toads on Camp Pendleton. Thus, we have determined that it is appropriate to exclude Camp Pendleton from this critical habitat designation under section 4(b)(2). The main benefit of this exclusion is ensuring that the mission-critical military training activities can continue without interruption at Camp Pendleton while the INRMP and programmatic uplands consultation are being completed. This exclusion does not include that part of Camp Pendleton leased to the State of California and included within San Onofre State Park (including San Mateo Park) and those agricultural leased lands adjacent to San Mateo Creek. Because these lands are used minimally, if at all, by the Marines for training, the lands proposed within the state park and agricultural leases are retained in the final designation.

Should additional information become available that changes our analysis of the benefits of excluding any of these (or other) areas compared to the benefits of including them in the critical habitat designation, we may revise this final designation accordingly. Similarly, if new information indicates any of these areas should not be included in the critical habitat designation because they no longer meet the definition of critical habitat, we may revise this final critical habitat designation. If, consistent with available funding and program priorities, we elect to revise this designation, we will do so through a subsequent rulemaking.

If you have questions regarding whether specific activities will constitute adverse modification of critical habitat, contact the Field Supervisor, Ventura or Carlsbad Fish and Wildlife Offices (see **ADDRESSES** section). Requests for copies of the regulations on listed wildlife, and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Branch of Endangered Species, 911 NE. 11th Ave, Portland, OR 97232 (telephone 503/231–2063; facsimile 503/231–6243).

Summary of Comments and Recommendations

In the June 8, 2000, proposed rule, (65 FR 36512), we requested all interested parties to submit comments on the specifics of the proposal including information, policy, treatment of HCPs, and proposed critical habitat boundaries as provided in the proposed rule. The first comment period closed on August 7, 2000. The comment period was reopened from November 9 to December 11, 2000 (65 FR 67334), to allow for additional comments on the proposed rule and comments on the draft economic analysis of the proposed critical habitat. We entered comments received from August 8 to November 9, 2000, into the administrative record for the second comment period.

We contacted appropriate Tribes, State and Federal agencies, county governments, elected officials, and other interested parties and invited them to comment. In addition, we invited public comment through the publication of notices in the following newspapers in southern California: Santa Maria Times, Los Angeles Times, Daily News-Press (Victorville), Orange County Register, The Press-Enterprise, North County Times, and the San Diego Union-Tribune. The inclusive dates of these publications were June 10 and 12, 2000, for all papers. In these notices and the proposed rule, we announced the dates and times of two public hearings that were to be held on the proposed rule. These hearings were in Valencia (June 27, 2000) and Temecula (June 29, 2000), California. Transcripts of these hearings are available for inspection (see **ADDRESSES** section).

We requested five herpetologists and conservation biologists who have familiarity with the arroyo toad or related species and reserve design to peer review the proposed critical habitat designation. Two of the peer reviewers submitted comments on the proposed critical habitat designation.

We received a total of 155 comments, 38 oral and 117 written, from 131 commenters during the 2 comment periods. Of these comments, 12 of the commenters who submitted oral testimony also submitted duplicative or additional written comments, and 14 commenters submitted written material during both comment periods. In total, oral and written comments were received from 5 Federal agencies, 3 Tribes or their representatives, 2 State agencies, 19 local governments or their representatives, and 105 businesses, organizations or individuals. We reviewed all comments received for substantive issues and new data regarding critical habitat and the arroyo toad. Comments of a similar nature are grouped into 6 general categories relating specifically to the proposed critical habitat determination and draft economic analysis of the proposed determination. These are addressed in the following summary.

Issue 1: Comments on previous Federal actions, the Act and implementing regulations

(1) *Comment:* There were several comments regarding the listing of the toad, the data on which the listing was based, and the lack of data cited in the critical habitat proposal documenting the habitat losses and threats.

Service response: The purpose of this document is not to re-examine the data and threats on which the listing was based. Within the proposed rule, we provided information on the status of and threats to the toad to provide background for the critical habitat proposal. The losses and threats are documented in the rule to list the toad and in the recovery plan, and the supporting documentation is in the files at the Ventura and Carlsbad Fish and Wildlife Offices (see **ADDRESSES** section).

(2) *Comment:* One commenter stated that, as the arroyo toad was only

recognized as a separate species in the 1980s (sic), it could not have lost 75 percent of its habitat in that time as there has been a net gain in wetlands during the 1990s.

Service response: The original description of the arroyo toad as a separate species was made in 1915. At the time it was listed, we recognized it as a subspecies of the southwestern toad. Based on information discussed in the Background section we now know that the arroyo toad is a separate species. We have corrected the table to reflect this change. The arroyo toad has inhabited the coastal streams and rivers of California and Baja California del Norte, Mexico, for a long time. The habitat loss that it has suffered from dam construction over the past 70 years has been compounded in some portions of its range by agricultural activities and increased urbanization, both of which continue to place pressure on the remaining toad habitats. Although there may have been a net gain of wetlands in California in the 1990s, this was not in habitats used by arroyo toads, but in other types of systems, such as salt and fresh-water marshes, neither of which are suitable for arroyo toads.

(3) *Comment:* One commenter stated that the Act expired in 1993 and no listings since then are valid, and that the Secretary has failed to promulgate regulations on listings and critical habitat designations. The commenter then claimed that no listings are valid, and as critical habitat can only be designated ''concurrently and after'' a species is listed, we can't designate critical habitat for the arroyo toad or any other species.

Service response: We disagree. The Act remains in effect, even in the absence of a multi-year authorization, and Congress continues to appropriate funds to implement the administrative provisions of the Act in each year. Regulations on listing threatened and endangered species and on designating critical habitat are found at 50 CFR part 424, specifically at sections 424.11 and 424.12.

(4) *Comment:* Several commenters stated that it is inappropriate or illegal to designate unoccupied areas as critical habitat.

Service response: Section 3(5)(A) of the Act defines critical habitat for threatened and endangered species as specific areas both within and outside the geographical area occupied by the species at the time it is listed that are essential to the conservation of the species; this definition is reiterated in the Code of Federal Regulations (CFR) at 50 CFR 424.02(d). Thus the Act expressly authorizes the designation of both occupied and unoccupied habitat as critical habitat. In the Act, conservation is defined as the use of all methods and procedures needed to bring a species to the point at which the measures provided by the Act are no longer necessary. This process is also termed ''recovery.'' We have not designated any critical habitat units outside the geographical area currently or historically occupied by the species. In addition, all of the units designated as critical habitat contain areas of known arroyo toad occupancy. However, the extent of occupancy in each unit has not been fully determined.

(5) *Comment:* One commenter stated that it is inappropriate to use a recovery standard to define critical habitat, thus the proposed designation is overly broad, contradictory to 1978 legislative history directives (of narrow application), and does not meet statutory standards.

Service response: The Act defines critical habitat, in part, as areas on which are found those physical or biological features essential to the conservation of the species. Conservation is defined in the Act as the use of all methods and procedures needed to bring a species to the point at which the measures provided by the Act are no longer necessary, that is, to recover the species. The purpose of a recovery plan is to describe site-specific actions necessary to achieve conservation of listed species, criteria by which conservation can be measured (that is, recovery standards), and estimates of time and costs necessary to achieve recovery. In cases where recovery plans have been developed before critical habitat is designated, those plans can be very useful, as they identify the recovery criteria (standards) and the actions and habitats necessary to meet those criteria. Recovery plans also receive public and peer review. Therefore, we believe it is appropriate to use an approved recovery plan for determining areas for designation as critical habitat.

(6) *Comment:* One commenter stated that, according to the Tenth Circuit Court of Appeals finding in *Catron County Board of Commerce, New Mexico* v. *United States Fish and Wildlife Service*, 75F.3d 1429 (10th Cir 1996) (*Catron* v. *FWS*) we are required to prepare an environmental assessment or environmental impact statement before designating critical habitat.

Service response: The commenter is correct, in that the Tenth Circuit Court of Appeals determined that an environmental assessment or environmental impact statement should be prepared before designating critical habitat. However, the finding in *Catron* v. *FWS* does not apply to California, which is in the Ninth Circuit. In making critical habitat determinations in California, we follow the Ninth Circuit Court of Appeals decision in *Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995). In that case the Court held that NEPA does not apply to the Secretary's decision to designate critical habitat for an endangered or threatened species under the ESA because (1) Congress intended that the ESA critical habitat procedures displace the NEPA requirements, (2) NEPA does not apply to actions that do not change the physical environment, and (3) to apply NEPA to the ESA would further the purposes of neither statute.

(7) *Comment:* One commenter stated: ''Designating critical habitat triggers specific legal protections * * *'' and toads and habitat outside the 25 m (80 ft) elevational limit and 1.5 km distance would ''be denied these protections.'' Another commenter referred to ''restrictions imposed by critical habitat.''

Service response: Critical habitat receives protection under section 7 of the Act only through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. The Act does not provide other forms of protection to lands designated as critical habitat. Because consultation under section 7 of the Act does not apply to activities on private or other non-Federal lands that do not involve a Federal nexus, critical habitat designation does not afford any additional protections under the Act against such activities. On the other hand, it should also be understood that exclusion of an area from critical habitat does not mean that such habitat is unimportant or may not, in the future, be determined to be necessary for recovery for the species. Areas outside the critical habitat designation will continue to be subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the section 9 take prohibitions, and such areas may also be the recipients of conservation actions implemented under sections 7(a)(1) and 10(a)(1). Section 7(a)(1) requires that Federal agencies contribute to the conservation of listed species, section 10(a)(1)(A) addresses recovery actions through research and Safe Harbor agreements, and section 10(a)(1)(B) covers incidental take permits issued in conjunction with approved HCPs.

Issue 2: Life history, habitat characteristics, and ecological considerations

(8) *Comment:* We received several comments relative to the soils that toads use for burrowing or travel when migrating or dispersing. Some commenters stated that toads only use sandy or loamy sand soils; others stated that toads use compacted soils.

Service response: The best available information documents that arroyo toads use sandy and loamy sand soils, as well as compacted soils, although in different ways. Data and information we have received since the publication of the proposal support our conclusion that toads primarily burrow in loose sandy or loamy sand soils and that areas of such soils are important habitat components in both the riparian and upland zones. Arroyo toads do cross other soil types during dispersal and migration, and, under suitable conditions, may burrow into these for shelter.

(9) *Comment:* One commenter stated that grazing is not harmful to arroyo toads; intensive grazing is beneficial and should be encouraged, as the species needs open, nonvegetated sandy stream channels and terraces and wide-spread sedimentation due to overgrazing, and other agricultural activities will improve habitat for the toad.

Service response: We agree that some properly managed grazing in riparian areas may be compatible with toad survival and conservation, but conclude that intensive grazing is detrimental to the conservation of the arroyo toad. It is well documented that intensive grazing of riparian areas degrades stream and riparian habitat, decreases water quality, and causes direct mortality of arroyo toads. The arroyo toad does need open stream channels and terraces, but it also requires some vegetation in which to hide. Excessive cover by non-native plant species such as arundo (giant reed) and tamarisk do not provide appropriate conditions for arroyo toad breeding and survival. Improperly managed grazing can denude stream banks and terraces entirely, leading to increased erosion, and thus siltation of the sandy substrate toads prefer; total removal of streamside vegetation also leaves toads no place in which to escape from predators, high temperatures, and other threats. The Service, other land mangers, and livestock owners can work together to establish appropriate management plans for arroyo toads and their habitat in areas where grazing does or is likely to occur.

Issue 3: Critical habitat and primary constituent elements descriptions, criteria, and methodology

(10) *Comment:* One commenter stated that the language used to describe the primary constituent elements was ambiguous.

Service response: The commenter referred specifically to the definition of primary constituent elements as contained in the Act, which are general in nature and provide a framework for determining what features and processes of the habitat are essential to provide for the conservation of a species. The primary constituent elements for the arroyo toad are identified in detail in both the proposal and this final rule.

(11) *Comment:* One commenter requested that we clarify how habitat changes may result from natural processes and how that relates to designating critical habitat in areas that do not support primary constituent elements.

Service response: We are not designating critical habitat in units that are not occupied or do not support primary constituent elements. All units support all of the primary constituent elements. While some specific areas within a unit may provide only breeding habitat, only upland habitat, or only migration and dispersal habitat, the unit is properly evaluated as a whole, not by isolating small sections of it. The statement regarding the changes that may occur in the characteristics and suitability of upland habitat was for the purpose of presenting a comprehensive picture of the dynamic systems in which the toad has evolved. Relative to actual on-the-ground critical habitat, processes such as fires, floods, and earthquakes may cause excessive fine silts to be deposited in a documented breeding site one year, making it unsuitable for breeding that year (and possibly for several years) but that would not mean that the area would not still be essential for arroyo toad conservation. Natural hydrologic processes would remove the fine silt over time, restoring the area to suitable breeding habitat. Toads may use what would ordinarily be deemed marginal breeding habitat for that time period, or may forgo breeding altogether. It is essential for this species' conservation that a patchwork of habitats be recognized as actually or potentially occupied at any given time.

(12) *Comment:* We received a request that we clarify how to treat habitat that does not support ''all'' primary constituent elements. Specifically, the commenter asked whether or not hard-surface roads and stream crossings constitute critical habitat.

*Service response:*s Habitat does not need to contain all of the primary constituent elements to qualify as critical habitat. For example, upland areas do not contain suitable breeding habitat, and some areas used as migration and dispersal corridors may contain little burrowing habitat. Although the hard-surface areas do not provide burrowing habitat for arroyo toads, they can be used as foraging sites, and smaller roads (i.e., one-and two-lane roads, and dirt roads) and stream crossings do not constitute barriers to arroyo toads. Therefore, hard-surface roads and stream crossings can be considered critical habitat. We have by definition excluded areas such as buildings, aquaducts and airports, because they do not contain any of the primary constituent elements.

(13) *Comment:* One commenter stated that the presence of non-native predators and plants makes habitat unsuitable and inappropriate for designation as critical habitat.

Service response: Several non-native plant and animal species are identified as threats to arroyo toads in the recovery plan and in the critical habitat proposal. The presence of non-native competitors or predators does not automatically preclude designation of an area as critical habitat, if the area contains primary consetituent elements. Such areas clearly are in need of special management as contemplated in the definition of critical habitat in the Act, to decrease the numbers of non-natives present and to correct, as appropriate, the habitat conditions that allowed them to become established.

(14) *Comment:* Some commenters stated that areas where water flows have been modified due to dams or other water management activities are unsuitable and should not be designated, and requested removal of specific areas as unsuitable for breeding due to habitat changes. Conversely, other commenters stated that water diversions and quality should be evaluated as part of the analysis of effects when issuing incidental take permits under section 10 of the Act or conducting consultations under section 7. Some of the latter also stated that the Service should establish instream flow regime guidelines.

Service response: We have successfully worked with several water management agencies to modify their flow regimes in such a manner to meet their needs and goals as well as the needs of arroyo toads and other native species. We believe additional efforts along these lines will be successful in

allowing expansion or reestablishment of toad populations, while meeting the needs of the water management agencies. We reviewed specific recommendations, and revised the critical habitat units as we determined to be appropriate. Some areas that commenters identified as unsuitable were determined, on further evaluation, to be non-essential for the survival and conservation of the arroyo toad, and so were removed from critical habitat. Some areas were specifically included because they serve as essential migratory or dispersal areas between breeding areas or potential breeding areas, or between breeding and upland habitats. Other areas remained in the final designation because we believe that they are essential to stabilize and expand existing populations, the primary goal of the recovery plan. These areas have been retained because they are essential for the conservation of the species.

The impacts of water diversions and water management actions, as well as other issues of water quality, are evaluated for their effects on arroyo toads and other listed species during consultations and review of HCPs. Instream flow regime guidelines have been established for some streams during the consultation process. As other water management agencies enter into the consultation process, such guidelines will be established as appropriate for those streams.

(15) *Comment:* Some parties commented on the fragmentation of upland habitats by road construction projects. One commenter stated their belief that State Highway 76, along the San Luis Rey River in San Diego County, constitutes an impassable barrier to arroyo toads and that critical habitat should not extend beyond that road.

Service response: We also are concerned about direct and indirect effects of road construction on arroyo toads and their habitat, and continually seek ways to avoid or reduce such impacts. Highway 76 is a two-lane road with relatively low traffic volume during late-night and pre-dawn hours, which should allow for some toads to cross it safely. In addition, there are numerous undercrossings that allow toads to move up tributary drainages and then into the uplands. Therefore, we believe that Highway 76 will not seriously impede migration and dispersal.

(16) *Comment:* The broad scale of the proposed critical habitat maps is not specific enough to allow for reasonable public comment and therefore violates the Act. The proposal does not identify specific areas and defers designation of geographically specific areas to future consultations.

Service response: We identified specific areas in the proposed determination that are referenced by UTM coordinates, which are found on standard topographic maps. We also made maps available at the public hearings and at the Ventura and Carlsbad Fish and Wildlife Offices with the proposed critical habitat units superimposed on 7.5 minute topographic maps and aerial photos. Further, we distributed GIS coverages and maps of the proposed critical habitat units to everyone who requested them. We believe the information made available to the public was sufficiently detailed to allow for informed public comment. This final rule contains the legal descriptions of areas designated as critical habitat as required under 50 CFR 424.12(c). All lands within the boundaries established by the listed UTMs are designated as critical habitat. If additional clarification is necessary, contact the Ventura or Carlsbad Fish and Wildlife Office (see **ADDRESSES** section).

(17) *Comment:* The scope of the proposal was overly broad, in that too wide a zone on either side of the streams was proposed, and too much marginal or unsuitable habitat was included; there was a lack of accuracy and detail in mapping leading to the concern that developed areas and infrastructure are within the boundaries and will be considered critical habitat.

Service response: We recognize that not all parcels of land within designated critical habitat will contain the habitat components essential to arroyo toad conservation. We are required to describe critical habitat (50 CFR 424.12(c)) with specific limits using reference points and lines as found on standard topographic maps of the area. The approach to developing the proposed critical habitat was based on the best available scientific information, and on the development of a scientifically supportable model for predicting arroyo toad habitat. While some commenters believe that no habitat they judge to be marginal or unsuitable should be included within the critical habitat boundaries, the primary constituent elements include not just sandy soils and breeding habitat, but the processes that will allow appropriate breeding conditions to persist over time. Therefore, we take a broader view of the essential components of arroyo toad habitat than do some of the commenters. The hydrologic regimes (including natural flooding), scouring and depositional events, and other processes that have caused specific habitats to develop and be maintained must continue to operate for the arroyo toad to persist over the long term. Because such processes and their maintenance are necessary for the persistence of suitable habitat for the arroyo toad, we could have proposed entire watersheds for designation as critical habitat. Doing so would have involved much more extensive areas than we proposed. We concluded that designation of smaller areas would accomplish the goal of maintaining the processes on which arroyo toad habitat is dependent.

Given that the systems the toad inhabits are dynamic, and that specific breeding and burrowing sites can change from year to year, and because of the need to provide routes for migration and dispersal, areas are included that do not now appear to or may never be appropriate breeding habitat or burrowing habitat. However, these areas still fulfill an essential role in the arroyo toad's life history pattern, and are essential for the conservation of the species.

Due to the time constraints imposed by the Court, and the absence of detailed GIS coverages during the preparation of the proposed determination, a 1 km UTM grid was used to delineate the proposed critical habitat boundaries. This resulted in the inclusion of some areas that are not essential to the conservation of the arroyo toad. In preparing the final determination, we used more detailed GIS coverages that allowed us to reduce our minimum mapping unit to a 250 m UTM grid square. This resulted in more refined critical habitat boundaries that exclude many areas which do not contain the primary constituent elements for arroyo toads. The smaller minimum mapping unit used in defining the final critical habitat boundaries still did not allow us to exclude all developed areas such as towns, housing developments, airports, or other developed lands unlikely to provide habitat for the arroyo toad. However, because these developed areas do not contain the primary constituent elements for the arroyo toad, we believe that activities occurring on them will not affect critical habitat and thus will not trigger a section 7 consultation.

(18) *Comment:* Some commenters believe that the Service did not use the best available information, and failed to consider information obtained since the listing.

Service response: We disagree. We are under a Court order to finalize this critical habitat designation by January 19, 2001. When developing any listing

proposal or proposed critical habitat designation we use the best information available at the time, and we solicit information from a variety of sources. We use information that is in our files, and we request information from Federal and state agencies, consultants, and researchers during the development of the proposal. The recovery plan for the arroyo toad incorporated information obtained since the species was listed, as well as earlier information. The critical habitat proposal incorporated information obtained since the drafting and finalization of the recovery plan, as documented by the incorporation of references from 1999 and 2000. The public comment periods provided additional opportunities to collect information. Comments received on the proposed designation and the draft economic analysis and additional information received during the comment periods have been taken into account in the development of this final determination. Further, we will continue to monitor and collect new information and may revise the critical habitat designation in the future if new information supports a change.

(19) *Comment:* One commenter made several suggestions: reevaluate the upland habitat requirements of the arroyo toad, conduct further surveys, and incorporate published information from a wider range of scientists in our evaluation of the necessity of uplands to the species' survival.

Service response: We have evaluated all of the available information collected by or provided to us by researchers, consultants, surveyors, land managers, and interested parties. None of the documents concerning movements of toads and the upland they habitat use consist of peer-reviewed, published papers. They consist of annual reports filed by permit holders, reports submitted to the Service and other agencies by individuals conducting surveys and studies, and unpublished data and information submitted to us by those same individuals.

Properly functioning watersheds are integral to the survival and recovery of the arroyo toad, and upland habitats are crucial to the survival of the species. The primary constituent elements consist of an appropriate hydrologic regime that includes a natural flooding regime, the presence and replenishment of proper substrates, upland habitats sufficient to support foraging and non-breeding activities, a lack of non-native species (plants and animals), barrier-free dispersal and migration corridors, and undisturbed habitats. The only way appropriate hydrologic regimes can be maintained and appropriate depositional processes ensured is by having healthy upland habitats. The primary constituent elements, therefore, go beyond the simple needs of the toad for breeding, foraging, and dispersal, and incorporate landscape level and geological time-scale processes.

(20) *Comment:* Some commenters expressed their opinion that reliance on one habitat model (Barto 1999) was inadequate.

Service Response: We did not rely solely on the habitat model developed by Barto (1999). An approach similar to that used by Barto was used to identify stream reaches that contain appropriate breeding habitat, but we went beyond that in determining upland habitats, dispersal and migration corridors. We incorporated information used to develop the recovery plan and additional information received since that time, including predictive habitat maps developed by the Forest Service and several planning efforts in Southern California, more recent field studies, and information from a variety of sources.

(21) *Comment:* One commenter stated that the critical habitat proposal was not developed through a scientifically valid process, and that the use of GIS technology is scientifically questionable and illegal. Referencing the June 14, 1999, notice requesting comments on how the Service designates critical habitat, the commenter stated that we cannot use GIS to determine critical habitat boundaries unless the public has an opportunity to comment on the use of the technology.

Service Response: The development of predictive models has been used for decades in numerous fields, including hydrology, economics, air quality management, and wildlife habitat management. GIS technology is an effective tool for using spatial data to evaluate species-habitat relationship. It is appropriate to use such tools to determine the location and extent of habitat a species needs to meet stated conservation goals. The Act and implementing regulations do not constrain the methods to be used in determining critical habitat boundaries, but do state that the best available scientific and commercial information shall be used. The GIS layers represent the best available information on topography, stream gradient, soil types, floodplain width, and other parameters that we have for many of the areas where toads exist. As such, using GIS technology to determine critical habitat boundaries is consistent with the law, our policies, and guidance.

(22) *Comment:* One commenter believes the critical habitat proposal was not developed through a legally valid process, stated that the designation of critical habitat requires field visits, and was opposed to the use of GIS maps as legal descriptions.

Service Response: We followed the implementing regulations, our policy and guidance in determining the areas to propose for inclusion in critical habitat for the arroyo toad. The Act and implementing regulations do not require that we make on-site visits to determine the suitability of habitat. We do, to some extent, rely on our partner agencies and the commenters to provide us with more detailed information during the comment period. After the comment period, we review the proposed boundaries and make modifications as appropriate. The GIS maps are not the legal descriptions of the habitat. We provided legal descriptions, as required by regulation (50 CFR 424.12(c)), with specific limits using reference points (UTM coordinates) as found on standard topographic maps of the areas. There is no requirement in the law or regulation that the boundaries of critical habitat be surveyed and delineated on the ground.

(23) *Comment:* Some commenters believe that, because most toad sightings are within 500 m (0.3 mi) of streams, the upland habitat distance should be reduced to 500 m (0.3 mi).

Service response: Although most arroyo toad sightings may have been within 500 m (0.3 mi) of the streams, there are numerous sightings beyond that distance. The shorter distance for the majority of sightings is likely due to several factors, including sampling artifacts (*i.e.*, habitats further away were not sampled), reduced availability of upland habitats in the areas where telemetry studies have been conducted, and the difficulty in detecting toads during dispersal and migration. There are a sufficient number of sightings of toads beyond 500 m from streams that the experts' evaluation is that arroyo toads regularly use available habitat beyond that distance. They may use the land for estivation, overwintering, foraging, dispersal to new or adjacent breeding areas, and migration from breeding to non-breeding habitats.

It is also important to remember that, in managing for the arroyo toad and in designating critical habitat, we need to ensure that natural hydrological, fluvial and geomorphological processes can continue. This will require thorough review of activities that occur within not only the critical habitat boundaries, but elsewhere in the designated watersheds and other watersheds in which arroyo toads live. It does not

mean that all projects within critical habitat boundaries or designated watersheds will be precluded, but that not only the direct, but also the indirect effects on the toad's habitat must be evaluated.

(24) *Comment:* One commenter stated that using the 25m (80 ft) elevational limit excludes the majority of upland habitat records.

Service response: Based on our analysis of available arroyo toad location data, which is described in this rule and included in the administrative record, over 85 percent of documented upland habitat locations are within the final critical habitat boundaries.

(25) *Comment:* One commenter stated that the Service ignored the potential for arroyo toads to disperse over distances in excess of 2 km (1.2 mi).

Service response: We did consider the possibility of such movements, and cite dispersal movements of approximately 6 to 8 km (4 to 5 mi) along a stream corridor. We do not have sufficient data to estimate with any reliability the proportion of toads that may make long-distance overland movements. About half of the critical habitat units are separated from the next closest unit by distances in excess of 10 km (6 mi); the distances between the centers of toad populations or areas with the highest concentrations of toads are even greater. Based on the available information, which is cited in the rule, we believe overland dispersal movements are unlikely to occur between such widely separated populations. Therefore, we believe it is unnecessary to include large extents of upland habitat between units in this designation. We believe that the designated critical habitat is sufficient to provide for the long term survival and conservation of the toad.

(26) *Comment:* One commenter stated that the Service did not discuss dispersal enough and should do so for each critical habitat unit.

Service response: We recognize the importance of dispersal in maintaining viable arroyo toad populations and incorporated available information in determining the distribution and boundaries of the critical habitat units. Several of the units, particularly those in the northern and desert recovery units, are isolated from each other by distances of 10 to 160 km (6 to 100 mi). The only two critical habitat units in the northern recovery unit that have centers of toad populations less than 10 km (6 mi) apart are separated by Interstate 5, which we consider an impassable barrier in terms of overland migration. We clearly stated in the proposal that we expect dispersal to occur along streams, and between streams if the habitat is suitable and the streams are close enough. At this time, we do not have enough information to predict, with any degree of certainty, the minimum or maximum distances toads will travel overland in different environments. We noted particular units in which we believe overland dispersal is likely to occur between critical habitat units, between subunits, or between tributaries within units. We did not ignore the possibility that overland dispersal may occur in units in which we did not discuss it, but we do not believe there are sufficient data available to make claims that overland dispersal does or will occur between units that are separated by 10 km (6 mi) or more.

(27) *Comment:* One commenter stated that insufficient areas were designated to provide for the recovery of the arroyo toad, and stated that we ignored ''known'' populations of arroyo toads in our designation, particularly those on Amargosa Creek in Los Angeles County, the lower San Luis Rey River in San Diego County, and '' * * * other areas * * * particularly in Riverside County.'' Other commenters made specific suggestions regarding areas they thought should be designated, including all tributaries of the Santa Clara River in Los Angeles and Ventura counties; the Cucamonga and Cajon watersheds, San Bernardino County; additional portions of San Mateo Creek, San Diego and Riverside counties; Temescal Creek, Orange County; and portions of Temecula Creek, Riverside County.

Service response: We disagree that insufficient land has been designated to provide for the recovery of the arroyo toad. All of the critical habitat areas are considered essential to the species' conservation, and the critical habitat closely follows the recommendations of the recovery plan. Exceptions are primarily those areas where it was recently determined that arroyo toads do not occur currently and most likely did not occur historically (*e.g.*, Pinto Wash in Imperial County, San Felipe and Vallecitos Creeks in San Diego County). In addition, several areas identified for recovery actions, such as the upper Salinas River and the Otay River basin, are not included in this designation. By evaluating the downlisting and delisting criteria in the ''Recovery Plan for the Arroyo Southwestern Toad'' relative to the designated critical habitat units, we determined that the critical habitat units as designated will provide adequately for the survival and recovery of the arroyo toad in each of the recovery units. Sufficient land is designated within each of the targeted drainages or basins to provide multiple opportunities to protect toad populations.

We did not include all of the specific lands listed above in the proposal because, at the time of proposal, we concluded that these lands were not essential for the conservation of the arroyo toad or did not meet the definition of critical habitat, as discussed below. Also, the Act states, at section 3(5)(C), that except in particular circumstances determined by the Secretary ''critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.'' We did not designate critical habitat in the upper Salinas River watershed, the entire length of or all tributaries to currently occupied rivers or watersheds, or areas that have arroyo toads but that we did not deem essential to the conservation of the species.

Regarding the first commenter's suggestions, no documentation of the populations referred to was provided. We are aware of the supposed sighting on Amargosa Creek, and have tried for several years to obtain confirmation of the sighting. To date, we have been unable to obtain any documentation that confirms the sighting. We proposed nearly the entire length of the lower and middle stretches of the San Luis Rey River for inclusion in critical habitat, excluding only heavily urbanized portions downstream of the confluence of the San Luis Rey and Guajome Creek (unit 14); we believe the populations to which the commenter was referring are included. Regarding the suggestion that we should include additional unspecified areas in Riverside County, we believe we have identified all appropriate essential habitat in the county.

Not all tributaries of the Santa Clara River contain suitable breeding or upland habitat for the arroyo toad, nor do they provide dispersal corridors from one area of breeding habitat to another. We determined that many tributaries to the Santa Clara River, Cucamonga Wash, and portions of upper San Mateo Creek, Temecula Creek and the upper San Luis Rey River are not essential to the conservation of the species. Therefore, we did not propose critical habitat for those areas.

It is not the intent of the Act, nor is it within the law, our policy or guidelines, to designate critical habitat for every population and every documented historic location of a species. The recovery goal for the arroyo toad is to conserve the phenotypic and genetic diversity of the toad in each of the recovery units, as discussed in the *Critical Habitat Designation* section. We

have determined that the critical habitat units we have designated will, when properly managed, provide sufficient habitat to support enough self-sustaining populations of arroyo toads across the historic range of the species to meet the downlisting and delisting criteria.

The Cajon Wash sighting was made after the publication of the proposal. Significant additions to the proposed critical habitat would require an additional public comment period. Because we did not propose the area as critical habitat and provide members of the public an opportunity to comment on its inclusion, and we are under a Court order to finalize this critical habitat designation by January 19, 2001, we are not including Cajon Wash in this final designation. If, on further evaluation, we determine that these or other populations and areas are essential for the conservation of the arroyo toad and that the areas need special management or protection, we will propose them for inclusion, given workload and budgetary constraints.

(28) *Comment:* One commenter stated that we should not include the lower Sisquoc River as second and third order streams are the most productive arroyo toad habitats, not sixth order streams.

Service response: The commenter provided no data to support the statement that second and third order streams are more productive arroyo toad habitat than sixth order streams. We do have data on at least one sixth order stream, Santa Margarita River in San Diego County, that supports a large arroyo toad population. The lower Sisquoc River, and other fifth and sixth order streams (for example, the Santa Clara and San Luis Rey Rivers), have been strongly affected by intensive agriculture, urbanization, and sand and gravel mining operations. Each system was evaluated to determine if it is essential to the conservation of the arroyo toad and if it needs special management or protection. Those systems that met both criteria have been included in this final designation.

Issue 4: Military Lands

(29) *Comment:* The Department of Defense (DOD) requested that their lands be excluded from the critical habitat designation because protections and management afforded the arroyo toad under Integrated Natural Resource Management Plans (INRMPs) pursuant to the Sikes Act and under existing programmatic biological opinions were sufficient, thereby resulting in their lands not requiring special management or protection and not meeting the definition of critical habitat.

Service response: We address the issue of military lands in detail in the previous section entitled ''Benefits of Exclusion''. As discussed in that section, subsection 4(b)(2) of the Act allows us to exclude areas where the benefits of exclusion outweigh the benefits of inclusion. Our analysis of the costs and benefits of inclusion of military lands led us to conclude that the benefits of excluding certain military lands outweigh the benefits of including them. Please refer to that section of this document for the details. We are involved in discussions with DOD to ensure that the arroyo toad is adequately addressed under existing programmatic biological opinions or through ongoing programmatic consultations covering training activities, construction, controlled burning, wildfire management and other activities on the military reserves. In addition, DOD is in the process of developing INRMPs and Endangered Species Management Plans (ESMP) for the arroyo toad and other listed species on their military reserves.

(30) *Comment:* Certain commenters stated that we failed to consider the military mission and the cumulative effects of multiple critical habitat designations on the ability of the Department of Defense to achieve mission goals, and pointed out that military bases cannot be set aside as preserves, nor used to mitigate off-site impacts such as urbanization.

Service response: Marine Corps Base Camp Pendleton is the Marine Corps' only amphibious training base on the west coast. During the public comment periods for the proposal, the Marines informed us that the designation, if made final, had ''the potential to substantially degrade the military capabilities of both the installation and assigned operational forces.'' Although the areas proposed on Camp Pendleton are essential to the conservation of the toad, designation would significantly impair critical training. Therefore, we have excluded Camp Pendleton from this final designation. Our rationale for this exclusion is discussed in more detail in the section ''Exclusions under section 4(b)(2)'', above.

The lands designated on Fort Hunter Liggett and Fallbrook Naval Weapons Reserve are essential for the conservation of the toad, and are not adequately addressed under existing management plans. Fort Hunter Liggett seemed most concerned in their comments about the inclusion of what they termed ''marginal and unsuitable'' habitat and the resulting consultation requirements, and the perceived need to reinitiate consultation on certain actions. We believe we have adequately addressed much of their concern by eliminating the northernmost reach of the river that was proposed, and by the reduction in grid cell size to eliminate such marginal habitat (see Changes from the Proposal section). Several of the consultations they mentioned would not need to be reinitiated, as there will clearly be no effect on the habitat (*e.g.* bullfrog removal program). They have already begun the process of reinitiating consultation on their programmatic biological opinion, which was necessitated by new information on the toad and by the recent listing of the purple amole, *Chlorogalum purpureum*, not by the proposal of critical habitat for the toad.

A primary concern expressed by Fallbrook Naval Weapons Station is that the designation of critical habitat within certain developed areas will impose additional restrictions on their operations. However, existing structures, ordnance storage magazines and bunkers, and other developed areas do not provide the primary constituent elements necessary for the arroyo toad and thus by definition are not critical habitat. Federal actions limited to these areas would not trigger a section 7 consultation, unless they might affect individual arroyo toads and/or the primary constituent elements in adjacent critical habitat.

Issue 5: Relationship of critical habitat to HCPs, NCCP program, section 7, and section 404

(31) *Comment:* Some commenters were supportive of the policy that lands covered by approved and future HCPs that provide take authorization for the arroyo toad should be excluded from critical habitat. Several commenters suggested that designated critical habitat be removed concurrently with approval of the HCP because they are concerned that additional consultations would be required as a result of critical habitat. Another suggested that the Service adopt a regulation that would allow the removal of the critical habitat designation upon the formulation and adoption of ''a regional conservation cooperative.''

Service response: We recognize that critical habitat is only one of many conservation tools for federally listed species. HCPs are one of the most important tools for reconciling land use with the conservation of listed species on non-Federal lands. Section 4(b)(2) of the Act allows us to exclude from critical habitat designation areas where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the

extinction of the species. We believe that in most instances the benefits of excluding HCPs from critical habitat designations will outweigh the benefits of including them. For this designation, we find that the benefits of exclusion outweigh the benefits of designation for all legally operative HCPs issued for the arroyo toad.

We anticipate that future HCPs in the range of the arroyo toad will include it as a covered species and provide for its long term conservation. We expect that HCPs undertaken by local jurisdictions (*e.g.,* counties, cities) and other parties will identify, protect, and provide appropriate management for those specific lands within the boundaries of the plans that are essential for the long-term conservation of the species. Section 10(a)(1)(B) of the Act states that HCPs must meet issuance criteria, including minimizing and mitigating any take of the listed species covered by the permit to the maximum extent practicable, and that the taking must not appreciably reduce the likelihood of the survival and recovery of the species in the wild. We fully expect that our future analyses of HCPs and section 10(a)(1)(B) permits under section 7 will show that covered activities carried out in accordance with the provisions of the HCPs and section 10(a)(1)(B) permits will not result in the destruction or adverse modification of critical habitat designated for the arroyo toad. As discussed above in the ''Exclusions Under Section 4(b)(2)'' section.

(32) *Comment:* Some commenters suggested that HCP exclusions should include planning areas of pending HCPs and lands enrolled in the NCCP program, and areas that have approved ''environmental documents, either CEQA or NEPA, that have included biology reports and FWS review in which'' no arroyo toads have been found. In one case, commenters claimed that because the lands are already ''enrolled'' in the NCCP program they are already subject to regulation, and the section 7 process provides enough protection in this area.

Service response: While we trust that jurisdictions will fulfill their commitment to complete conservation plans, this voluntary enrollment does not assure that such plans will be completed. Protections for arroyo toad habitat provided through participating jurisdiction's enrollment in the NCCP process are temporary and are not assured; such protections may be lost if the jurisdiction elects to withdraw from the NCCP program. NCCP Guidelines direct habitat loss to areas with low long-term conservation potential that will not preclude development of adequate NCCP plans and ensure that connectivity between areas of high habitat value will be maintained.

(33) *Comment:* Some commenters stated that the designation of critical habitat removes incentives to participate in NCCP, HCP and Special Area Management Plan (SAMP) processes, in part because it is impossible to provide assurances needed to participate in such processes following the designation of critical habitat.

Service response: The designation of critical habitat should not deter participation in the NCCP or HCP processes. Approvals issued under these processes include assurances of no additional mitigation through the HCP No Surprises regulation (63 FR 8859). The development of new HCPs or NCCPs or any SAMPs should not be affected by designation of critical habitat primarily because the Service views the standards of jeopardy for listed species and of adverse modification for critical habitat as being virtually identical. We discuss these standards in detail in the section in this document entitled ''Critical Habitat'' and in our response to Comment 53.

(34) *Comment:* One commenter said we should rely on the Corps' 404 program, protections under section 7 of the Act, and enrollment in the NCCP program to protect the arroyo toad and its habitat.

Service response: Please see comment (35) for our response to the section 7 issue, and comment (31) for enrollment in the NCCP program. The Corps, section 404 program does not address impacts to upland habitat except in a very few cases and thus does not assure protection for such upland areas essential to the conservation of the arroyo toad.

(35) *Comment:* Some commenters suggested that, as with lands covered by an HCP, the Service should exclude from critical habitat lands covered by a biological opinion issued as a result of consultation under section 7 of the Act.

Service response: HCPs typically provide for greater conservation benefits to a covered species by assuring the long-term protection and management of a covered species and its habitat, and funding for such management through the standards found in the 5-Point Policy for HCPs (64 FR 35242), the HCP No Surprises regulation (63 FR 8859), and relevant regulations governing the issuance and implementation of HCPs. However, such assurances are typically not provided in connection with Federal projects subject to section 7 consultations which, in contrast to activities on non-Federal lands covered by HCPs, often do not commit to long-term special management or protections. Thus, a consultation unrelated to an HCP typically does not accord the lands it covers the extensive benefits an HCP provides.

(36) *Comment:* One commenter stated that the 1.5 kilometer upland habitat distance is inconsistent with the 1 km distance in approved HCPs.

Service response: The 1.5 km extent for upland habitat is the maximum distance we used in describing the habitat in which the primary constituent elements are most likely to be found. Because the elevational limit of 25 m (80 ft) above the stream bed takes precedence, the 1.5 km limit is less than 2 percent of the areas designated.

(37) *Comment:* Some commenters stated that surveys for the San Diego MSCP were conducted at a scale (at the landscape level rather than the parcel level) that makes it inappropriate to equate the protections afforded through the HCP process to those afforded through the designation of critical habitat. One commenter stated that areas within the MSCP planning area should be included in critical habitat, as there are no special management considerations or protections for the arroyo toad in this area. That commenter also stated that, currently, the only measures proposed are control of non-native predators and human impacts and that area-specific management directives were to have been developed by July 1998, but those tasks have not been done.

Service response: There are several implications to these comments. The first is the implication that the landscape scale is not appropriate for determining areas that should be protected for the arroyo toad. The second is that the critical habitat evaluation was conducted at a parcel level. The third implication is that critical habitat provides for a higher standard of conservation and protection than HCPs and the accompanying section 7 consultations, and the fourth is that the provisions of the MSCP do not provide adequate protection for the arroyo toad and its habitat.

The MSCP planning effort utilized the best scientific information available. Survey information included both landscape level scale for vegetation mapping and habitat evaluation modeling and parcel specific information, where available, on known locations of species, including the arroyo toad. Both the development of the recovery plan and drafting of the proposed critical habitat designation evaluated existing known toad populations and remaining toad habitat in a landscape context. It would be

infeasible to evaluate critical habitat on a parcel-by-parcel basis.

Section 10(a)(1)(B) of the Act states that HCPs must meet issuance criteria, including minimizing and mitigating any take of the listed species covered by the permit to the maximum extent practicable, and that the taking must not appreciably reduce the likelihood of the survival and recovery of the species in the wild. Section 7 prohibits actions funded, authorized, or carried out by Federal agencies from jeopardizing the continue existence of a listed species or destroying or adversely modifying the listed species' critical habitat. Actions likely to ''jeopardize the continued existence'' of a species are those that would appreciably reduce the likelihood of both the survival and recovery of a listed species. Actions likely to result in the destruction or adverse modification of critical habitat are those that would appreciably reduce the value of critical habitat for both the survival and recovery of the listed species. Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species. Given the similarity of these definitions, actions likely to result in the destruction or adverse modification of critical habitat would almost always result in jeopardy to the species concerned. The MSCP requires a Framework Management Plan and Area Specific Management Plans for preserved lands. These plans must address both species-specific requirements and preserve management. Therefore, we believe that the arroyo toad will be adequately served by the MSCP without the designation of critical habitat.

Issue 6: Economic impacts and analysis; other relevant impacts

(38) *Comment:* Some commenters felt that critical habitat should not have been proposed before an economic and other relevant impacts analysis was completed.

Service response: Pursuant to 50 CFR 424.19, we are not required to conduct an economic analysis at the time critical habitat is initially proposed. We published the proposed determination in the **Federal Register** (65 FR 36512), invited public comment, and held two public hearings. We evaluated and used comments received on the proposed critical habitat to develop the draft economic analysis, as appropriate. On November 9, 2000 (65 FR 67334), we published a notice in the **Federal Register** announcing the availability of the draft economic analysis and reopening the public comment period for 30 days. We were unable to provide a longer comment period given the short time frame ordered by the Court. In making this final critical habitat designation, we used the economic analysis and took into consideration comments and information submitted during the public hearings and public comment periods.

(39) *Comment:* One commenter stated that we made an inappropriate finding of less than $100 million impact before completing the economic analysis.

Service response: In the proposed rule, we made a preliminary finding that the economic impact of the critical habitat designation would be less than $100 million. This preliminary finding was made pursuant to Executive Order 12866, which requires that for significant regulatory actions, the issuing agency shall assess the potential costs and benefits of the regulatory action. The executive order defines significant regulatory actions, in part, as rulemakings that have an annual effect on the economy of $100 million or greater. The Office of Information and Regulatory Affairs, within the Office of Management and Budget, is required to review all significant rulemakings. We based our preliminary finding in the proposed rule on our experience with similar critical habitat designations because, at the time of proposal, our economic analysis had not yet been finalized.

Also in the proposed rule, under the discussion of the Small Business Regulatory Enforcement Fairness Act (SBREFA), we noted that we would conduct an economic analysis to determine if the critical habitat designation would have a significant effect on a substantial number of small entities. As discussed above, in response to comment (38), we developed and made available for public review a draft economic analysis. In this draft economic analysis we concluded that the critical habitat designation as proposed would result in an economic impact of less than $1 million, significantly below the $100 million threshold in Executive Order 12866. Our draft economic analysis also concluded that our proposed rule would not have a significant effect on a substantial number of small entities in part because the analysis found that the proposed rule would have an overall insignificant effect on the local and regional economies where critical habitat was being proposed. Based on this draft economic analysis, public comment, and our changes to the proposal, including reducing the acreage included and the stream length of many units, we made our final determination required under Executive Order 12866 that the economic impact of this final critical habitat designation will be less than $100 million and under SBREFA that the final rule would not have a significant economic effect on a substantial number of small entities.

(40) *Comment:* Several commenters were concerned that our proposed rule did not include a Regulatory Flexibility Analysis and felt that the economic analysis was incorrect to assume that a Regulatory Flexibility Analysis was not required.

Service response: The Regulatory Flexibility Act, as amended by the SBREFA, generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to the notice and comment requirements of the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. We are certifying that this rule will in fact not have a significant economic impact on a substantial number of small entities and, as a result, we do not need to prepare either an initial or final regulatory flexibility analysis.

We have based our finding on the fact that this rule will not result in any significant additional burden to the regulated community, regardless of the size of the entity. Our economic analysis identified several potential impacts associated with critical habitat designation, including increased consultation costs, project modification costs, and potential temporary decreases in property values. However, because we have only designated property that is within the geographic range occupied by the arroyo toad, and because the arroyo toad is already federally listed, other Federal agencies are already required to consult with us on activities that they authorize, fund, permit, or carry out that have the potential to jeopardize the species. Any associated costs related to these consultations, including project modifications, will therefore be attributable to the listing of the species and not to designation of critical habitat. In a few instances, completed (or near-complete) consultations may have to be reinitiated once the critical habitat designation is finalized to ensure Federal agencies' responsibilities under section 7 are met; as a result, the critical habitat designation could result in an economic effect associated with any delays to complete these consultations. Most decreases in property values, to the extent that they can be attributed to the arroyo toad and result from actual restrictions on land use, would be a result of its listing and not because of

critical habitat designation. We recognize that the market response to a critical habitat designation, due to the perception of an increased regulatory burden, may lower real estate values on lands within the designation; however, we expect this decrease in value to be temporary. Our draft and final economic analyses further discuss how we arrived at our conclusion regarding impacts to small entities.

(41) *Comment:* One commenter suggested we review an economic analysis of the California gnatcatcher critical habitat designation commissioned by the law offices of Nossaman, Guthner, Knox and Elliott, LLP, representing The Transportation Corridor Agencies, Forest Lawn Memorial-Park Association, and other interested parties, that reported the estimated economic impacts attributable to designating critical habitat for the gnatcatcher could result in impacts between $300 million and $5.5 billion. According to the study, critical habitat designation will impact between 1 to 5 percent of future expected growth in the area. Another commenter submitted an economic analysis of critical habitat designation commissioned by the law offices of Nossaman, Guthner, Knox, and Elliott LLP, representing the Foothill/Eastern Transportation Corridor Agency and the Raymond Basin Management Board, that reported estimated economic impacts attributable to designating critical habitat for the arroyo toad could result in impacts between $117 million and $875 million. According to the study, critical habitat designation will impact from 1 to 7.5 percent of future expected growth.

Service response: The first referenced document was prepared in response to the gnatcatcher critical habitat and is not specifically relevant to this designation of critical habitat for the arroyo toad. We have reviewed the second economic study cited, prepared by Dr. Janczyk, of Empire Economics, on behalf of the commenter; we disagree with the study's conclusions and the approach used to derive the estimates discussed in the comment. The author (Dr. Janczyk) asserts that critical habitat designation will impact future planned growth in Southern California between 1 and 7.5 percent. This mistaken assertion appears to be based on several biological opinions cited in the report pertaining to the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and the California desert tortoise (*Gopherus agassizii*) (Service 1997a, b, c). We believe the analysis is faulty because of the author's reliance on these few biological opinions to support his assertion that critical habitat designation will affect future planned growth, while ignoring the thousands of other biological opinions that have allowed proposed projects without separate mitigation requirements for critical habitat.

The use of the Tequesquite Landfill Flood Protection Levee project biological opinion (Service 1997a) to estimate the impacts of designating critical habitat for the arroyo toad is inappropriate for two reasons. First, this opinion addressed impacts to the least Bell's vireo and the southwestern willow flycatcher, not the arroyo toad. Second, the ratios used in that opinion are in keeping with those employed for projects affecting wetland/riparian habitats along the Santa Ana River, regardless of occupancy by listed species and/or inclusion within critical habitat. As a result, the unfortunate choice of words in this opinion linking mitigation ratios and critical habitat for two riparian birds should not be used as a predictor of future consultations involving arroyo toad critical habitat. (For additional detail concerning this biological opinion, see 65 FR 63680, October 24, 2000.)

Regarding the second biological opinion, the author fails to note that this opinion was developed in response to the BLM's request for a programmatic opinion regarding desert tortoise critical habitat. Specifically, the opinion reflects the thresholds proposed by the BLM as to what types of impacts would trigger section 7 re-initiations, with which we agreed (see Service 1997b, page 2: ''To ensure that significant amounts of desert tortoise habitat are not disturbed under this biological opinion, the BLM proposes to track the cumulative amount of habitat disturbed by small actions and to reinitiate formal consultation should habitat loss reach 10 acres per year in desert tortoise critical habitat within a recovery unit''). To date, this standard has not resulted in reinitiation, suggesting insignificant economic impacts to the region.

The author's analysis also references a third biological opinion (1–8–97–F–46), again related to the desert tortoise, along with the BLM's and California Department of Fish and Game's (Department) California Statewide Desert Tortoise Management Policy (BLM and Department 1992), which the author believes supports his assertion that we place higher mitigation requirements on impacts affecting critical habitat. In referring to these documents, two pertinent issues are ignored. First, as stated above, the BLM, not the Service, proposed the mitigation requirements. The compensation policy was issued by the BLM in 1991, three years before we proposed and designated critical habitat for the desert tortoise. Again, to quote our biological opinion, ''Compensation for affected desert tortoise habitat will be based on Bureau-designated categories for areas within the California Desert Conservation Area, designated critical habitat within the Mojave National Preserve and Nevada, and additional Bureau guidance in Nevada'' (Service 1997c).

The study also ignores the fact that the National Park Service (NPS) included compensation as part of the proposed action, and proposed that compensation ratios for affected critical habitat be based on those ratios used for the BLM's Category 1 habitat (Service 1997c). The proposal additionally included, as project mitigation, off-site compensation by AT&T for unavoidable impacts to desert tortoise habitat in the areas of cable removal. Critical habitat for the desert tortoise largely overlaps the BLM's Category I and II habitats. Consequently, if we had not designated critical habitat for the desert tortoise, the NPS would have required compensation based on the formula and maps developed years earlier by the BLM and other agencies. Critical habitat for the desert tortoise was not the ultimate determining factor for the compensation ratios included in the NPS's request for formal consultation.

The author also cites an article by Houck (1993) which he believes supports his claim that we impose greater mitigation obligations where critical habitat is present. Contrary to the author's assertion, Houck found, in a review of over 71,560 informal and 2,000 formal consultations that were conducted under the Act, only 18 projects that were ultimately terminated. In other words, out of all the activities that we consulted on, less than 0.03 percent of projects were terminated (Houck 1993, p. 318). Furthermore, of 99 jeopardy opinions issued by the Service, we issued ''reasonable and prudent alternatives'' in nearly all of these opinions that allowed the projects to proceed (Houck 1993, p. 319). Houck found that ''(T)he few opinions that did not identify such alternatives involved small-scale, private development directly in habitat essential to the species (although not always designated as critical). No major public activity, nor any major federally-permitted private activity was blocked'' (Houck 1993, p.320). Houck also reported that a common theme in all the jeopardy opinions that he reviewed was our determination to find an alternative within the economic means, authority,

and ability of the applicant that would allow the project to proceed (Houck 1993, p.320).

We are also aware of several other more recent studies to support our assertion that critical habitat designation has had an insignificant effect on local economies. Recently, a study commissioned by the Coalition for Sonoran Desert Protection examined the impact of designating habitat for the cactus ferruginous pygmy-owl in southern Arizona (McKenney 2000). Performed one year after the designation, the study found that dire predictions made by developers in that region have not materialized. Specifically, high-density housing development has not slowed, the value of vacant land has risen, land sales have continued, and the construction sector has continued its steady growth. Similarly, another study that analyzed the effects of logging curtailments for the northern spotted owl in the Pacific Northwest found that it had an insignificant effect on the region's economic growth (Niemi *et. al.* 1999).

Consequently, we believe that the available evidence supports our assertion that, in general, critical habitat designation has not caused any significant impact on future economic growth and would reach the same conclusion with regard to the proposed critical habitat designation for the arroyo toad.

(42) *Comment:* Several commenters stated that the draft economic analysis is wrong to assume that all of the areas proposed as critical habitat are ''occupied'' by the arroyo toad.

Service response: The determination of whether or not proposed critical habitat is within the geographic range occupied by the toad is part of the biological decision-making process and lies beyond the scope of an economic analysis. For a discussion of the biological justification of why we believe the area being designated is within the geographical area occupied by the toad, see our response to Comment 4.

(43) *Comment:* Several commenters stated that the economic analysis inadequately analyzes the effect that other pre-existing regulations may have (especially regulations implementing the California Environmental Quality Act (CEQA)) if critical habitat is designated.

Service response: We disagree with this assertion. Our economic analysis discusses the effect that existing State and local regulations have on current activities in proposed critical habitat units. Specifically, CEQA requires identification of significant environmental effects of proposed projects that have the potential to harm the environment. The lead agency (typically the California State agency in charge of the oversight of a project) must determine whether a proposed project would have a ''significant'' effect on the environment.

Section 15065 of Article 5 of the CEQA regulations states that a finding of significance is mandatory if the project will ''substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.'' If the lead agency finds a project will cause significant impacts, the landowners must prepare an Environmental Impact Report (EIR). Any economic impacts identified by the EIR process are due to the presence of a particular species on the project land, regardless if it is designated critical habitat.

Review of the CEQA statute and conversations with the California Resources Agency (one of the agencies responsible for administering CEQA) revealed that, when a species is known to occupy a parcel of land, the designation of critical habitat alone does not require a lead agency to pursue any incremental actions. In the case of the arroyo toad, the recovery plan made available to the public a description of the habitat areas essential to the conservation of the arroyo toad. Therefore, economic impacts generated by CEQA on arroyo toad habitat areas are part of the baseline and not attributable to the designation of critical habitat. Furthermore, because the Service has only proposed occupied habitat as critical habitat, the effects of the designation are minimal to non-existent due to the existing requirement on Federal agencies to ensure that current and future land-use activities do not jeopardize the toad.

(44) *Comment:* One commenter stated that the economic analysis was flawed because while, in their opinion, the economic analysis provided a methodology for reviewing economic impacts of critical habitat designation, it did not actually analyze the impacts.

Service response: We disagree with the commenter that the economic analysis failed to analyze the economic impacts of critical habitat designation. The analysis first identifies the potential impacts that may be associated with critical habitat designation in a general framework and then discusses actual expected impacts by critical habitat units and by land use activities.

(45) *Comment:* One commenter stated that the Service must not rely on the public to provide information concerning the potential impacts of critical habitat designation.

Service response: In conducting our economic analysis, we relied on data and information provided by the Service, other Federal land management and consulting agencies, and State and local government officials. Our draft economic analysis acknowledged that predicting the number and type of future section 7 consultations that could be attributed to critical habitat designation was difficult, even with the input provided by these sources, and consequently, while we attempted to measure the effect of proposed critical habitat designation, we invited public comment that could provide us with more specific information that would allow us to make better estimates. Our document states that the Service will consider all comments submitted on the draft economic analysis and would revise estimates, as appropriate, based on any additional data provided by the public. However, it does not solely rely on the public to provide us with the information needed to make an adequate determination of proposed critical habitat designation.

(46) *Comment:* One commenter stated that the economic analysis did not consider potential costs under section 10 of the Act that may be created as a result of the critical habitat designation.

Service response: The Service must internally consult, pursuant to section 7(a)(2) of the Act, on the issuance of any section 10(a)(1)(B) permit. The effects of permit issuance on critical habitat must be considered in the consultation. We do not anticipate that designation of critical habitat would add to the costs of a section 10(a)(1)(B) permit. First, section 10(a)(1)(B) permits address incidental take; the Act does not address the take of critical habitat. Although we must consider the effects of permit issuance on critical habitat, we believe that the jeopardy standard for listed species and the adverse modification standard for critical habitat are virtually identical and would not therefore result in additional costs to the applicant.

Second, one of the functions of critical habitat is to inform the public of areas that may require special management considerations or protection. Regardless of the designation of critical habitat, the Service must ensure that the issuance of any section 10(a)(1)(B) permit does not compromise the survival and recovery of any listed species. This process includes

identifying key areas that are necessary to ensure the conservation of the listed species, which we would do whether or not critical habitat has been designated. Viewed in this sense, the designation of critical habitat is another tool for identifying key areas. We also encourage applicants to allow us to participate as much as possible in the development of applications for section 10(a)(1)(B) permits so we can identify and conserve these key habitat areas, whether or not they have been designated as critical habitat.

(47) *Comment:* One commenter stated that the economic analysis failed to consider costs incurred by other Federal agencies as a result of critical habitat designation.

Service response: We disagree. Our estimates for costs associated with future section 7 consultations that may be attributable to critical habitat designation does include costs that may be incurred by the Federal action agencies.

(48) *Comment:* Several commenters stated that we should have quantified potential property value effects and that the economic analysis incorrectly assumes that development projects will continue despite any incremental costs.

Service response: Our economic analysis acknowledged that critical habitat designation may, in some instances, have short-term effects on private property values. However, as we stated in the analysis, we did not attempt to quantify such effects due to their highly speculative nature, lack of real observable data, and propensity to likely have offsetting effects. Since we conducted the draft economic analysis, a study was released by the Coalition for Sonoran Desert Protection that examined the impact of designating habitat for the cactus ferruginous pygmy-owl in southern Arizona. Performed one year after the designation, the study found that dire predictions made by developers in that region have not materialized. Specifically, high-density housing development has not slowed, the value of vacant land has risen, land sales have continued, and the construction sector has continued its steady growth. We similarly believe that critical habitat designation for the toad will also not likely exert any real influence on real estate development within the critical habitat areas.

(49) *Comment:* Some commenters stated that we should have estimated the cumulative effect of the critical habitat designation for the toad along with the effect of future pending and proposed critical habitat for other species in the area.

Service response: We are not required to estimate the cumulative effect of multiple critical habitat designations as part of our rulemaking procedures. We are required to consider only the effect of the proposed government action, which in this case is the designation of critical habitat for the arroyo toad. The appropriate baseline to use in an analysis of a Federal action, which in this case is the designation of critical habitat for the arroyo toad, is the way the world would look absent the proposed regulation. Against this baseline, we attempt to identify and measure the *incremental* costs and benefits associated with the government action. Because the toad is already a Federally protected species, any effect this listing has on the regulated community is considered part of the baseline scenario, which remains unaffected by our critical habitat designation. Future pending and proposed critical habitat designation for other species in the area will be part of separate rulemakings and, their economic effects will be considered separately.

(50) *Comment:* Some commenters were concerned that, while we discussed impacts that are more appropriately attributable to the listing of the toad than to the proposed designation of critical habitat, we did not include in the baseline costs attributable to the listing or provide quantified estimates of the costs associated with the listing.

Service response: We do not agree that the economic impacts of the listing should be considered in the economic analysis for the designation of critical habitat. The Act is clear that the listing decision be based solely on the best available scientific and commercial data available (section 4(b) of the Act). Congress also made it clear in the Conference Report accompanying the 1982 amendments to the Act that ''economic considerations have no relevance to determinations regarding the status of species.'' If we were to consider the economic impacts of listing in the critical habitat designation analysis it would lead to confusion, because the designation analysis is meant to determine whether areas should be excluded from the designation of critical habitat based solely upon the costs and benefits of the designation, and not upon the costs and benefits of listing a species. Additionally, because the Act specifically precludes us from considering the economic impacts of the listing, it would be improper to consider those impacts in the context of an economic analysis of the critical habitat designation. Our economic analyses address how the actions we are currently considering may affect current or planned activities and practices; they do not address impacts associated with previous Federal actions, which in this case includes the listing of the toad as an endangered species. This method is consistent with the standards published by the Office of Management and Budget for preparing economic analyses under Executive Order 12866.

(51) *Comment:* Several commenters believed that the economic analysis underestimated potential future section 7 consultations with other Federal agencies and questioned how we developed our estimates.

Service response: Section 7 of the Act requires other Federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. To develop the estimate of potential future section 7 consultations that may be attributable to critical habitat designation, Service personnel were first asked to identify, for each critical habitat area, current and potential future land-use activities. In some cases we also contacted various Federal, State, and local representatives to clarify our understanding of some of these activities. Service personnel were then asked to consider how these activities affect the listed species and their habitat. For those activities that may affect a species or its habitat, we attempted to determine whether or not a Federal nexus existed that could lead to a section 7 consultation.

Incremental section 7 consultations were then estimated based on previous consultation histories in the area. In areas for which consultation had already occurred, we looked at the potential that such a consultation would need to be reinitiated if critical habitat is designated. For other areas where activities had not yet been the subject of consultation, we estimated potential future section 7 consultations likely attributable to critical habitat designation based on the presence of the toad and other listed species in the area, the likelihood of a Federal nexus, and the likelihood that a Federal agency would need to consult on such an activity based on the concerns of Service personnel along with the section 7 consultation history in the vicinity of the proposed critical habitat areas. In developing our estimates, we contacted personnel in other Federal agencies that have conducted section 7 consultations with the Service, or may in the future,

for their opinions on how critical habitat designation may or may not affect their perceived need to consult on current and future activities.

(52) *Comment:* Some commenters believe that the draft economic analysis underestimated the potential costs of critical habitat designation.

Service response: In preparing the economic analysis, we made an honest attempt to estimate the potential effects from critical habitat designation. As previously stated, we believe that many of the effects perceived by the public to be attributable to critical habitat would actually occur regardless of a critical habitat designation because the toad is a Federally protected species. Because we are attempting to estimate potential future effects from critical habitat designation, our estimates are based on potential future activities that are typical for the area. In reality, some individuals may experience impacts greater than we estimated, while others experience less. We were only able to identify the types of impacts likely to occur regarding the proposed critical habitat designation. The potential impacts we identified that could result include new or reinitiated section 7 consultations, and perhaps some prolongment of ongoing consultations to address critical habitat concerns, as required under section 7 of the Act. In some cases, it is possible that we might suggest reasonable and prudent alternatives to the proposed activity that triggered the consultation, which would also be an impact. Also associated with consultations is the length of time required to carry out consultations, which may result in costs associated with project delays.

We recognize that in some instances, the designation of critical habitat could result in a distorted real estate market because participants may incorrectly perceive that land within the critical habitat designation is subject to additional constraints. In truth, this is not the case because critical habitat designation for the toad does not add any extra protection, nor impact landowners beyond that associated with the listing of the species under the Act. As a result, we believe that any resulting distortion will be temporary and have a relatively insignificant effect on the real estate market as it should become readily apparent to market participants that critical habitat for the toad does not impose any additional constraints on landowners beyond those associated with the species' listing.

(53) *Comment:* Some commenters disagreed with the assumption applied in the economic analysis that the designation of critical habitat will cause no impacts above and beyond those caused by the listing of the species within occupied habitat and that ''adverse modification'' and ''jeopardy'' are different, will result in different impacts, and should be analyzed as such in the economic analysis.

Service response: We disagree with the commenters' assertion that ''jeopardy'' and ''adverse modification'' represent materially different standards. Section 7 prohibits actions funded, authorized, or carried out by Federal agencies from jeopardizing the continued existence of a listed species or destroying or adversely modifying the listed species' critical habitat. Actions likely to ''jeopardize the continued existence'' of a species are those that would appreciably reduce the likelihood of both the survival and recovery of a listed species. Actions likely to result in the destruction or adverse modification of critical habitat are those that would appreciably reduce the value of critical habitat for both the survival and recovery of a listed species. Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species. Given the similarity of these definitions, actions likely to result in the destruction or adverse modification of critical habitat would almost always result in jeopardy to the species concerned, particularly within the geographic area occupied by the toad and that has already been identified in the recovery plan as essential habitat. Furthermore, we believe that other Federal agencies are aware of our concern for the toad within these areas and, as a consequence, the designation of proposed critical habitat will not result in any appreciable increase in section 7 consultations.

(54) *Comment:* One commenter stated that the economic analysis did not address the economic impacts that critical habitat designation would have on regional water authorities.

Service response: We disagree with this comment, and believe that the economic analysis does address the potential effects that critical habitat designation could have on regional water authorities. We specifically identified water authorities that are already consulting with us, as well as those that may need to consult in the future. We also discuss the estimates of future section 7 consultations in the economic analysis.

(55) *Comment:* Several commenters requested that we consider the economic and other benefits of reducing development, and to keep in mind the identified beneficial uses of water in the designated drainages. They noted additional benefits of the critical habitat designation, such as reducing urban run-off, purifying run-off , allowing riparian vegetation to recover, and protecting recharge areas.

Service response: Critical habitat designation only has the potential to benefit watershed drainages if it somehow affects either current or planned uses of the area under the ''without critical habitat'' baseline scenario. In most instances, we do not believe that critical habitat designation for the arroyo toad will have any significant effect on land use activities or management practices and, as a result, we believe that the designation will also have limited economic or environmental benefits above the listing.

(56) *Comment:* Some commenters stated that the proposal focuses on agriculture as causing problems for the arroyo toad when, in reality, predation and roadkill are the biggest threats to the arroyo toad, and the Service is ignoring those. One commenter questioned our statements that agriculture has had negative effects on the arroyo toad and its habitat, and another stated that ongoing farm and ranch practices should be exempt from regulation. In particular, some commenters implied that the critical habitat designation would cripple the agricultural industry. Specifically, one commenter stated that agricultural revenue in affected counties is $7.8 billion when a 5:1 multiplier is applied, and that this output is placed at risk by the critical habitat designation.

Service response: We agree that predation by non-native species is a significant threat to arroyo toads. However, we disagree with the assertion that it has been or is at this time the greatest threat to the continued survival of the species. We have acknowledged the problems of predation or roadkill, and do not think that the proposal is solely focused on the issue of agriculture. All three topics are discussed extensively in the recovery plan, which we reference numerous times in this final rule. Historically, the greatest impacts to arroyo toad populations have been the construction of dams and the accompanying water management practices. More recently, intensive agriculture and urbanization have contributed greatly to the loss, degradation, and fragmentation of arroyo toad habitat. We received no new information during the public comment period to contradict this finding. Sand and gravel mining, improper livestock management practices, suction dredge mining, the invasion of non-native plant species, human recreational activities,

and non-native predators, combined with the losses of habitat, are significant threats to the species. The exact role each plays in the persistence of any given population varies depending on the presence and magnitude of each of the other threats. We are aware of the threat of predation by non-native species, and are working with several land management agencies to decrease the numbers of bullfrogs and non-native fish found in many watersheds. Simultaneously, we are working with the same and other agencies to reduce the impacts from water and livestock management practices, recreational activities, sand and gravel mining, roads, and non-native plants. The Service takes a multidisciplinary, multi-pronged, ecosystem level approach to the management of endangered species and their habitats.

We disagree that the entire agricultural revenue stream is jeopardized, as the areas proposed for critical habitat do not cover the entire landscape in any county in which it is proposed, nor most of the agricultural land in those counties. Additionally, by designating critical habitat for the arroyo toad we are not precluding any lands from being farmed now or in the future. We do not exert any influence over land-use decisions on private property conducted by non-Federal government entities, unless such action results in a take of a federally listed species or requires a Federal action. As most agriculture in the counties in which critical habitat is designated for the arroyo toad occurs on private, not Federal, lands, there will be very limited effects on agriculture overall.

(57) *Comment:* The designation of critical habitat for the arroyo toad will have a serious negative effect on the ability of the building industry to meet the demand for affordable housing.

Service response: We are aware that some of the land that we have proposed as critical habitat for the arroyo toad faces significant development pressure. Development activities can have a significant effect on the land and the species dependent on the habitat being developed. We also recognize that many large-scale development projects are subject to some type of Federal nexus before work actually begins. As a result, we expect that future consultations, in part, will include planned and future real estate development.

However it is very unlikely that these resulting consultations will take place solely in regard to critical habitat issues. While it is certainly true that development activities can adversely affect designated critical habitat, we believe that our future consultations regarding new housing development will take place because such actions have the potential to adversely affect a federally listed species. Such planned projects would require a section 7 consultation regardless of the critical habitat designation. Section 7 of the Act requires Federal agencies to consult with us whenever actions they fund, authorize, or carry out can jeopardize a listed species or adversely modify its critical habitat.

(58) *Comment:* One commenter was concerned because of the perceived effect of critical habitat on implementation of the Southern California Association of Governments (SCAG) regional transportation plans.

Service response: Because we have determined that the lands designated as critical habitat are within the geographic range occupied by the arroyo toad, this designation does not present any significant additional regulatory burdens upon Regional transportation projects beyond those attributable to the listing of the arroyo toad as a federally endangered species. Consequently, we do not believe that the designation of critical habitat for the arroyo toad adds any significant additional economic burden within critical habitat boundaries. In some cases, where an existing consultation is completed, a conference opinion has not been completed, the project not yet implemented, and the Federal action agency retains discretion (or such discretion is provided by law), agencies may need to reinitiate consultation to address possible impacts to critical habitat.

(59) *Comment:* Some commenters asked why the burden of past losses is put upon those now undertaking activities in remaining arroyo toad habitat, or expressed the concern that certain groups of people are being unfairly targeted by the designation of critical habitat.

Service response: We are sensitive to the concerns of the commenters, and encourage them and other parties to contact us to discuss specific issues. The intent of Congress in enacting the Endangered Species Act was to slow or halt the declines in the distributions and numbers of numerous species. These losses were most often due to habitat loss or degradation. Congress and the Act recognized the importance of both species and the ecosystems they depend on, and put in place prohibitions and mechanisms to recover those species at the risk of extinction. In many cases the agencies responsible for past losses of arroyo toads and their habitat have been required to alter their management practices to reduce direct losses of toads and to restore habitat to stabilize and expand existing populations. These include Federal agencies such as the Department of Defense and the Forest Service, as well as local agencies such as water districts. We are designating lands owned by Federal, State, and local agencies, as well as private lands in a wide variety of land use situations. No one landowner, land use category, or business category was focused on when we were selecting critical habitat.

(60) *Comment:* Exemption of roads, homes, and shopping centers is improper and discriminatory, in that it provides for different standards in evaluating urban versus rural uses.

Service response: We do not discriminate between projects or actions that are ''rural'' in nature, versus those that are ''urban'' in nature. As described elsewhere in this final rule, existing developments that no longer contain or support the primary constituent elements do not meet the criteria for critical habitat. In many cases, such development occurred before the species was listed. Federal agencies are not required to conference or consult with us until a species is proposed or listed, respectively. Development and activities that have taken place since the listing of the arroyo toad were reviewed and evaluated, as appropriate, under sections 7 and 10 of the Act. If a project or action was determined to be likely to have an effect on arroyo toads, a biological opinion or incidental take permit (the latter accompanied by an HCP) was issued. Such opinions and permits contain terms and conditions designed to avoid and minimize the adverse effects to the species.

(61) *Comment:* One commenter expressed concern about possible closures of fly-fishing waters.

Service response: We do not anticipate that any areas will be closed solely because they now fall within designated critical habitat boundaries. Current closures of areas inhabited by arroyo toads were made for several reasons. Some closures were to protect the toad and its habitat solely on the basis of the listing, others were due to generalized habitat degradation from recreational or other activities, some were triggered by massive landslides during the most recent El Niño events (1997–1998), and others were due to fires.

(62) *Comment:* Some landowners expressed concern about how critical habitat designation may affect their particular properties, what they would and would not be allowed to do in the future because of the designation, and whether they would need to seek

incidental take authorization from us for every type of action taken on their property.

Service response: We are sensitive to the concerns of individuals concerning their property rights. The designation of critical habitat for the arroyo toad does not impose any additional requirements or conditions on property owners beyond those imposed by the listing of the arroyo toad as a federally endangered species, nor does it establish a refuge, wilderness, reserve, preserve, or other special conservation area. All landowners, public and private, are responsible for making sure their actions do not result in the unauthorized taking of a listed species, regardless of whether or not the activity occurs within designated critical habitat. Take is defined by regulation to include ''significant habitat modification or degradation that actually kills or injures wildlife,'' which was upheld by the U.S. Supreme Court in *Sweet Home Chapter of Communities for a Great Oregon et al.* v. *Babbitt.*

Furthermore, all Federal agencies are responsible to ensure that the actions they fund, permit or carry out do not jeopardize the continued existence of a listed species, regardless of critical habitat designation. ''Jeopardize the continued existence of'' means to engage in an action that reasonably would be expected, either directly or indirectly, to reduce appreciably the likelihood of survival and recovery of a listed species in the wild by reducing the reproduction, numbers or distribution of that species (50 CFR 402.02). Because we designated only areas within the geographic range occupied by the toad, any activity that would result in an adverse modification of the toad's critical habitat would virtually always also jeopardize the continued existence of the species. Federal agencies must consult with us, pursuant to section 7 of the Act, on all activities that will adversely affect the toad both within and outside of designated critical habitat.

(63) *Comment:* The designation of critical habitat constitutes a taking by the Federal Government, and makes the government financially liable for losses in property values or due to prohibition of activities within the designated critical habitat.

Service response: In accordance with Executive Order 12630, the rule does not have significant takings implications. A takings implication assessment is not required. As discussed above, the designation of critical habitat affects only Federal agency actions. The rule will not increase or decrease the current restrictions on private property concerning take of the arroyo toad. Due to current public knowledge of the species' protection, the prohibition against take of the species both within and outside of the designated areas, and the fact that critical habitat provides no incremental restrictions, we do not anticipate that property values will be affected by the critical habitat designation. While real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, we expect any such impacts to be short term. Additionally, critical habitat designation does not preclude development of HCPs and issuance of incidental take permits. Landowners in areas that are included in the designated critical habitat will continue to have the opportunity to utilize their property in ways consistent with the survival of the arroyo toad. Activities such as gold mining or recreational activities that occur within critical habitat are more likely to be restricted due to direct impacts to arroyo toads, rather than any incremental restrictions due to the designation of critical habitat.

(64) *Comment:* One commenter stated that private sector uses of public lands should continue.

Service response: Properly managed activities, whether on private or public lands, by private individuals or companies or by public agencies, can have varying levels and types of effects on arroyo toads and their habitat. It is incumbent on all of these entities to ensure that their activities do not take toads, either directly or indirectly, and Federal agencies must ensure that their activities do not destroy or adversely modify designated critical habitat. The Service is available to provide technical assistance to agencies and landowners in determining the most appropriate methods for avoiding take of arroyo toads and other listed species. If it is likely that take of arroyo toads or adverse effects to the critical habitat will occur, then it is incumbent on Federal agencies to enter into the consultation process. If it is likely that take of arroyo toads will occur on non-Federal lands without a federal nexus, then the project proponent should apply for an incidental take permit under section 10(A)(1)(b) of the Act. In most cases of private activities on public lands, there will be few, if any, additional terms and conditions due to the designation of critical habitat, as the presence of the arroyo toad itself makes it necessary for Federal agencies to consult with us before they issue permits for such activities. If we did not reach a jeopardy conclusion during the original consultation, it is highly unlikely that the reinitiation of consultation will result in a destruction or adverse modification conclusion.

(65) *Comment:* We received a request that critical habitat be limited to publicly owned occupied habitat only.

Service response: The Act requires us to identify, and if prudent, to designate those habitats that are essential to the conservation of the species and that may require special management, regardless of ownership. As we discuss in the section entitled *Criteria Used to Identify Critical Habitat,* we guided our selection of areas for designation, in part, by the information and analyses in the arroyo toad recovery plan. This plan identified rivers and streams where the protection and management of the toad and its habitat are necessary to achieve recovery goals. Once lands are identified as essential to the conservation of the species, we may designate or exclude areas based on economic and other impacts. While some lands have been excluded from this final designation, no single category of land ownership may be automatically excluded.

(66) *Comment:* Some commenters believe that the designation of critical habitat will encourage the conversion of private farms and ranches to urban development, and that farms and ranches should be exempt from designation, as these land uses preserve open space and prevent conversion to urban development.

Service response: We disagree with this comment. There are numerous programs available through the Fish and Wildlife Service and other Federal agencies to assist farmers and ranchers in developing appropriate management plans for lands that harbor threatened and endangered species, both where critical habitat is designated and where it is not. For example, the Landowner Incentive Program, provides funds for land management activities undertaken through Safe Harbor agreements. Such agreements provide assurances to landowners that additional regulatory burdens will not be placed upon them as a result of increased populations of listed species or the attraction of listed species to appropriately managed habitat. Numerous organizations can provide funding, technical assistance, and management oversight for lands on which conservation agreements have been established. We invite farmers and ranchers to continue to work with us and other agencies and organizations to ensure that imperiled species will have the space they need, farmers and ranchers will be able to retain their way

of life, and open space will not be lost to industrial and urban development.

(67) *Comment:* The Service must perform a complete analysis of cumulative impacts from current and planned development, mining operations, and other activities.

Service response: We are not required to estimate the cumulative effects of critical habitat designations as part of our rulemaking procedures. We are required to only consider the effect of the proposed government action, which in this case is the designation of critical habitat for the arroyo toad. The appropriate baseline to use in an analysis of a Federal action is the way the world would look absent the proposed regulation. Against this baseline, we attempt to identify and measure the incremental costs and benefits associated with the government action. Because the toad is already a federally protected species, any effects the listing has on the regulated community is considered part of the baseline scenario, which remains unaffected by our critical habitat designation.

(68) *Comment:* One commenter indicated that the lower end of Bautista Creek (Unit 9)—from T5S, R1E Section 21 upstream to T5S, R1E Section 27—was not appropriate for critical habitat designation because the creek in this area flows first through a large debris basin and then into a concrete lined channel.

Service response: We have examined maps and photos of this area and determined that it is not essential habitat for conserving the arroyo toad. The critical habitat boundaries on Bautista Creek have been modified to exclude areas downstream of the center of Section 27.

(69) *Comment:* Several commenters suggested that the segment of the Whitewater River (Unit 22) below where the Colorado River Aqueduct crosses the river is not appropriate for critical habitat because of frequent water releases from the aqueduct into the river at this location to transport water to groundwater recharge basins in the Coachella Valley.

Service response: We have examined the situation in this area and determined that portions of the Whitewater River below the Colorado River Aqueduct crossing are not essential habitat for conserving the arroyo toad. The critical habitat boundaries on the Whitewater River have been modified to exclude areas downstream of the aqueduct.

(70) *Comment:* One commenter stated that it is not appropriate to consider Baker Canyon occupied by arroyo toads based on recent survey information and requested that we delete Baker Canyon from proposed critical habitat.

Service response: Robert Fisher observed and collected an arroyo toad within Baker Canyon in 1985 (R.N. Fisher, pers. comm.), and high-quality arroyo toad habitat still exists in this area. During 1997, surveys conducted at the Santiago Creek/Baker Canyon confluence did not detect the presence of arroyo toads (Harmsworth Associates 1998). However, this survey effort did not cover much of the area proposed as critical habitat, nor did it cover the area where the toad was observed in 1985. Reportedly, more comprehensive survey efforts within lower Baker Canyon during 2000 also failed to detect arroyo toads (Adrian Wolf, pers. comm.). Again, it is likely that portions of the area proposed as critical habitat were not covered by this effort, nor have the results been provided to us for our review. In many areas, breeding habitat conditions in 2000 were poor (e.g., dry stream courses) because of two consecutive years of below normal rainfall in southern California, leading to depressed arroyo toad breeding activity. During such conditions, we have found that protocol surveys can be ineffective at detecting arroyo toads, even in areas of known occupancy. Although it is possible that Baker Canyon is presently not occupied by arroyo toads, we regard this portion of critical habitat as essential to the conservation of the arroyo toad based on the need to safeguard a viable arroyo toad population within the Santa Ana Mountain portion of the species' range.

Summary of Changes From Proposed Designation

Based on a review of public comments received on the proposed determination of critical habitat for the arroyo toad, we re-evaluated our proposed designation of critical habitat for the arroyo toad. This resulted in several significant changes that are reflected in this final determination. These include: (1) A reduction in the minimum mapping unit for defining critical habitat boundaries, (2) the truncation of some stream reaches based on a determination that certain lands are not essential to the conservation of the arroyo toad or that such lands do not need special management, and (3) the exclusion under section 4(b)(2) of Camp Pendleton because the designation would significantly impair critical, ongoing training and related operations. A more detailed discussion of each of these issues follows.

We refined the minimum mapping unit for the designation, from the 1 km square grid cells used in the proposed rule to 250 m grid cells (1/16th the size of 1 km cells), so that lands essential to arroyo toad conservation are more precisely identified. We then superimposed the critical habitat boundaries on digital orthophoto quarter-quadrangle (DOQQ) imagery and to remove from critical habitat urban or developed areas that are not essential to the conservation of the arroyo toad. The final critical habitat designation covers 73,780 ha (182,360 ac), a reduction of 62 percent from the proposal.

Based on our evaluation of information received during the comment periods and site visits made to some of the proposed units, we reduced the extent of some of the stream reaches proposed as critical habitat. These changes were based on determinations that certain lands are not essential to the conservation of the arroyo toad or that such lands do not need additional special management. Specifically, we reduced the extent of the designated stream reaches in Unit 1, San Antonio River, Monterey County; Unit 2, Sisquoc River, Santa Barbara County; Unit 6, Upper Santa Clara River, Los Angeles County; Unit 9, San Jacinto River and Bautista Creek, Riverside County; Unit 17, San Vicente Creek, San Diego County; Unit 20, Little Rock Creek, Los Angeles County; and Unit 22, Whitewater River, Riverside County. The specifics for each unit are given below.

For Unit 1, the San Antonio River on Fort Hunter Liggett in Monterey County, we reduced the northern extent of the stream reach, which reduced the critical habitat unit by 1,300 ha (3,210 ac). The habitat in and adjacent to the reach from Forest Creek to just above Mission Creek is of lower quality than that of the remaining 27 km stretch of the river that is included. While the reach may provide breeding habitat for arroyo toads in years when other stretches are fully occupied, we do not believe it is essential to the recovery of the arroyo toad in the Northern Recovery Unit. If arroyo toads do occur there, the Army will have to conduct any activities in accordance with terms and conditions that will be established under a new programmatic biological opinion covering ongoing training, operations, and maintenance activities. The Army has opened discussions with us on their existing programmatic opinion, and recently submitted a draft management plan for the arroyo toad. When these documents are completed, the Service, if time and funding permit, will reassess the critical habitat boundaries in light of the plans. Until such time, we believe

the needs of the toads on Fort Hunter Liggett still require special management.

In Unit 2, the Sisquoc River in Santa Barbara County, we eliminated the lower portion of the river, from the confluence with the Santa Maria River to just below the confluence with La Brea Creek. This reduced the critical habitat unit by 4,300 ha (10,625 ac). We have very little information on arroyo toads in this area, and much of the habitat has been altered by ongoing agricultural and mining practices. We believe sufficient high-quality habitat is available in the remaining 3,385 ha (8,360 ac) of river and upland habitat to enable the stabilization and expansion of the arroyo toad population in this drainage.

In Unit 6, the Upper Santa Clara River basin, we have made substantial changes. Unit 6a has remained the same on the maps, although the description has changed to correct inaccuracies in the proposed rule. A large portion of the proposed Unit 6b, including the mainstem of the river and the lower portion of San Francisquito Creek, has been eliminated, reducing the critical habitat unit size by 7,000 ha (17,300 ac). The remaining portions are identified in this final rule as Unit 6b (Castaic Creek) and Unit 6c (San Francisquito Creek). We believe that, under the Natural River Management Plan (NRMP) (Valencia Company 1998), the river and creek will continue to function as a dispersal corridor for arroyo toads between Castaic Creek to San Francisquito Creek. We incorporated this area in the proposal to provide for such a corridor. We believe the geomorphology and natural hydrologic regime (deep sandy sediments with generally subsurface flow for much of the rearing period), coupled with human activities and changes, have precluded the establishment and maintenance of a breeding population. We do not believe it is in the best interests of the arroyo toad and other listed species to focus recovery efforts for the toad on the mainstem of the river. As the NRMP and associated conservation easements will not allow actions or activities that would impede migration, we believe that this area has sufficient special management in place. Castaic Creek upstream of the confluence with the Santa Clara River and San Francisquito Creek upstream of the NRMP boundary do not have adequate conservation easements or special management plans in place to provide adequately for arroyo toads in these areas. As with lands covered by an incidental take permit issued under section 10(a)(1)(B) and accompanying HCPs, if these areas are, in the future, protected with conservation easements or other management plans that do adequately address the needs of the toads, the Service will reassess the critical habitat boundaries in light of the easements and plans. The Service will try to undertake this review when the easement or plan is approved, but funding constraints may influence the timing of such a review. However, such agreements can proceed without a concurrent amendment to the critical habitat designation should all parties agree.

In Unit 9, San Jacinto River/Bautista Creek, we removed the lower 2 km (1.2 mi) stretch of Bautista Creek because it is channelized and no longer supports breeding habitat for the arroyo toad. Significant areas of developed lands were excluded because of the refined mapping unit, resulting in an overall reduction of about 3,660 ha (9,180 ac) in the unit size. We believe the remaining 1,710 ha (4,220 ac) will provide sufficient habitat for the conservation of the arroyo toads in this unit.

In Unit 17, San Diego River/San Vicente Creek, approximately 5 km (3 mi) of upper San Vicente Creek was removed from critical habitat boundaries because the creek flows through a dense residential development (i.e., San Diego Country Estates) in this area and we believe there is no longer sufficient upland habitat there to sustain arroyo toads. Along with the reduction in areal coverage resulting from the refined mapping unit, this resulted in the splitting of the proposed subunit 17a into two final subunits, 17a and 17d. The total reduction for this unit was approximately 3,500 ha (8,665 ac).

In Unit 19, Cottonwood Creek Basin, approximately 8 km (5 mi) of La Posta Creek were removed from critical habitat because there is no documentation (either recent or historic) of arroyo toads inhabiting the upper part of this drainage; thus, the area is not considered to be essential to the species' conservation. The unit was reduced from 18,000 ha (44,500 ac) in the proposed rule to 7,990 ha (19,740 ac) in the final designation. However, most of that reduction can be attributed to the smaller mapping unit.

In Unit 20, Little Rock Creek, approximately 5 km (3.1 mi) of Little Rock Creek below Little Rock Reservoir, a total of 1,000 ha (2,470 ac), was removed from critical habitat. Recent surveys by the Forest Service have not found arroyo toads downstream of the reservoir, and flow is subsurface in much of the stretch, making it unsuitable as rearing habitat. If arroyo toads are found on lands under Forest Service management, they will address these under appropriate management guidelines. If a population does become established in this area, we will reconsider the area as possible critical habitat, given time and funding constraints.

In Unit 22, the Whitewater River in Riverside County, we have removed the segment of proposed critical habitat downstream from the Colorado River Aqueduct, a stretch of approximately 3 km (2 mi). This reduced the unit size by about 700 ha (1,730 ac). The area is sparse in vegetative cover, channelized below Interstate 10, and subject to instantaneous and random changes in water levels. Water is periodically released from the Colorado River aqueduct into the Whitewater River to a series of percolation ponds for the purpose of recharging the Coachella Valley aquifer. The refined mapping unit eliminated approximately 800 ha (1,980 ac). We believe the remaining 10 km (6 mi) and 865 ha (2,150 ac) will provide sufficient habitat for the long-term conservation of the arroyo toad in this unit.

Marine Corps Base Camp Pendleton is the Marine Corps' only amphibious training base on the west coast. During the public comment periods for the proposal, the Marines informed us that the designation, if made final, had ''the potential to substantially degrade the military capabilities of both the installation and assigned operational forces.'' Because designation would significantly impair critical training, we excluded Camp Pendleton from this final designation. Our rationale for this exclusion is discussed in more detail in the section ''Exclusions under section 4(b)(2),'' above.

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific and commercial information available, and to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat. We cannot exclude such areas from critical habitat when such exclusion will result in the extinction of the species.

Economic effects caused by listing the arroyo toad as an endangered species, and by other statutes, are the baseline against which the effects of critical habitat designation are evaluated. The economic analysis must then examine the incremental economic and conservation effects and benefit of the

critical habitat designation. Economic effects are measured as changes in national income, regional jobs, and household income. An analysis of the economic effects of the proposed arroyo toad critical habitat designation was prepared (Industrial Economics, Incorporated, 2000) and made available for public review (November 9 to December 11, 2000; 65 FR 67334). The final analysis, which reviewed and incorporated public comments, concluded that no significant economic impacts are expected from critical habitat designation above and beyond that already imposed by listing the arroyo toad. The most likely economic effects of critical habitat designation are on activities funded, authorized, or carried out by a Federal agency. The analysis examined the effects of the proposed designation on: (1) Re-initiation of section 7 consultations, (2) length of time in which section 7 consultations are completed, and (3) new consultations resulting from the determination. We believe that any project that would adversely modify or destroy critical habitat would also jeopardize the continued existence of the species, and that reasonable and prudent alternatives to avoid jeopardizing the species would also avoid adverse modification of critical habitat. Thus, no appreciable regulatory burden or associated significant additional costs would accrue because of critical habitat above and beyond that resulting from listing. Our economic analysis does recognize that there may be costs from delays associated with reinitiating completed consultations after the critical habitat designation is made final. There may also be economic effects due to the reaction of the real estate market to critical habitat designation, as real estate values may be lowered due to perceived increase in the regulatory burden. However, we believe this impact will be short-term.

A copy of the final economic analysis and description of the exclusion process with supporting documents are included in our administrative record and may be obtained by contacting the Ventura or Carlsbad offices (see **ADDRESSES** section).

Required Determinations

1. Regulatory Planning and Review

This document has been reviewed by the Office of Management and Budget (OMB), in accordance with Executive Order 12866. OMB makes the final determination under Executive Order 12866.

(a) This rule will not have an annual economic effect of $100 million or more or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. The arroyo toad was listed as an endangered species in 1994. In fiscal years 1994 through 1999, the Ventura and Carlsbad Fish and Wildlife Offices conducted or are in the process of conducting, 27 and 55, respectively, formal section 7 consultations with other Federal agencies to ensure that their actions would not jeopardize the continued existence of the arroyo toad. No section 10(a)(1)(B) incidental take permits for arroyo toads have been issued by the Ventura office, although two HCPs are in the early planning stages. The Carlsbad office has issued six HCPs.

Under the Act, critical habitat may not be adversely modified by a Federal agency action; the Act does not impose any restrictions through critical habitat designation on non-Federal persons unless they are conducting activities funded or otherwise sponsored, authorized, or permitted by a Federal agency. Section 7 requires Federal agencies to ensure that they do not jeopardize the continued existence of the species. Based upon our experience with the species and its needs, we conclude that any Federal action or authorized action that could potentially cause an adverse modification of the proposed critical habitat would currently be considered as ''jeopardy'' under the Act (see Table 3).

TABLE 3.—IMPACTS OF ARROYO TOAD LISTING AND CRITICAL HABITAT DESIGNATION

Categories of activities	Activities potentially affected by species listing only [1]	Additional activities potentially affected by critical habitat designation [2]
Federal Activities Potentially Affected [3].	Removing, degrading, or destroying arroyo toad habitat (as defined in the primary constituent elements discussion), whether by activities such as road construction, grading, and maintenance; fencing; off-road vehicle use; airport improvement activities; road right-of-way designation; overgrazing; mining activities including suction dredging; recreational activities including development of campgrounds; changes in long and short-term water flows including damming, diversion, alteration by agriculture and urbanization, and channelization; military training and maneuvers; licensing for construction of communication sites; chemical applications, or other means including herbicide or pesticide application, etc.); and appreciably decreasing habitat value or quality through indirect effects (edge effects, invasion of exotic plants or animals, or fragmentation that the Federal Government carries out).	None.
Private Activities Potentially Affected [4].	Removing, degrading, or destroying arroyo toad habitat (as defined in the primary constituent elements discussion), whether by activities such as road construction, grading, and maintenance; fencing; off-road vehicle use; airport improvement activities; road right-of-way designation; overgrazing; mining activities including suction dredging; recreational activities including development of campgrounds; changes in long and short-term water flows including damming, diversion, alteration by agriculture and urbanization, and channelization; military training and maneuvers; licensing for construction of communication sites; chemical applications, or other means including herbicide or pesticide application, etc.); and appreciably decreasing habitat value or quality through indirect effects (edge effects, invasion of exotic plants or animals, or fragmentation) that require a Federal action (permit, authorization, or funding).	None.

[1] This column represents the activities potentially affected by listing the arroyo toad as an endangered species (December 16, 1994 59 FR 64859) under the Endangered Species Act.

[2] This column represents the activities potentially affected by the critical habitat designation in addition to those activities potentially affected by listing the species.

[3] Activities initiated by a Federal agency.

[4] Activities initiated by a private entity that may need Federal authorization or funding.

Accordingly, the designation of currently occupied areas as critical habitat does not have any incremental impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons that receive Federal authorization or funding. Non-Federal persons that do not have a Federal ''sponsorship'' of their actions are not restricted by the designation of critical habitat (however, they continue to be bound by the provisions of the Act concerning ''take'' of the species).

(b) This rule will not create inconsistencies with other agencies' actions. As discussed above, Federal agencies have been required to ensure that their actions do not jeopardize the continued existence of the arroyo toad since the listing in 1994. The prohibition against adverse modification of critical habitat is not expected to impose any additional restrictions to those that currently exist in occupied areas of proposed critical habitat. Because of the potential for impacts on other Federal agency activities, we will continue to review this action for any inconsistencies with other Federal agency actions.

(c) This rule will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Federal agencies are currently required to ensure that their activities do not jeopardize the continued existence of the species, and, as discussed above, we do not anticipate that the adverse modification prohibition (resulting from critical habitat designation) will have any significant incremental effects in areas of occupied habitat.

(d) This rule will not raise novel legal or policy issues. This final determination follows the requirements for designating critical habitat contained in the Act.

2. Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

In the economic analysis, we determined that designation of critical habitat will not have a significant effect on a substantial number of small entities. As discussed under Regulatory Planning and Review above and in this final determination, this rule is not expected to result in any restrictions in addition to those currently in existence for areas of occupied critical habitat. As indicated on Table 2 (see Critical Habitat Designation section), we designated property owned by Federal, Tribal, State, and local governments, and private property.

Within these areas, the types of Federal actions or authorized activities that we have identified as potential concerns are:

(1) Regulation of activities affecting waters of the United States by the Army Corps under section 404 of the Clean Water Act;

(2) Regulation of water flows, damming, diversion, and channelization by any Federal agency;

(3) Road construction and maintenance, right-of-way designation, and regulation of agricultural activities on Federal lands (such as those managed by the Service, Forest Service, DOD, or BLM);

(4) Regulation of grazing, mining, and recreation by the BLM, Department of Defense, Army Corps, or Forest Service;

(5) Regulation of airport improvement activities by the Federal Aviation Administration;

(6) Military training and maneuvers and, facilities operations and maintenance on Fort Hunter Liggett and other applicable DOD lands;

(7) Construction of roads and fences along the international border with Mexico, and associated immigration enforcement activities by the INS;

(8) Licensing of construction of communication sites by the Federal Communications Commission, and;

(9) Funding of activities by the U.S. Environmental Protection Agency, Department of Energy, Federal Emergency Management Agency, Federal Highway Administration, or any other Federal agency.

Many of the activities sponsored by Federal agencies within critical habitat areas are carried out by small entities (as defined by the Regulatory Flexibility Act) through contract, grant, permit, or other Federal authorization. As discussed above, these actions are currently required to comply with the listing protections of the Act, and the designation of occupied areas as critical habitat is not anticipated to have any additional effects on these activities.

For actions on non-Federal property that do not have a Federal connection (such as funding or authorization), the current restrictions concerning take of the species remain in effect, and this final rule will add no further restrictions.

3. Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 804(2))

In the economic analysis, we determined whether designation of critical habitat would cause (a) any effect on the economy of $100 million or more; (b) any increases in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (c) any significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. Please refer to the final economic analysis for a discussion of the effects of this determination.

4. Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*):

(a) This rule will not ''significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. Small governments will be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. However, as discussed above, these actions are currently subject to equivalent restrictions through the listing protections of the species, and no further restrictions are anticipated to result from critical habitat designation of occupied areas.

(b) This rule will not produce a Federal mandate of $100 million or greater in any year; that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments.

5. Takings

In accordance with Executive Order 12630, the rule does not have significant takings implications. A takings implication assessment is not required. As discussed above, the designation of critical habitat affects only Federal agency actions. The rule will not increase or decrease the current restrictions on private property concerning take of the arroyo toad. Due to current public knowledge of the specie's protection, the prohibition against take of the species both within and outside of the designated areas, and the fact that critical habitat provides no incremental restrictions, we do not anticipate that property values will be affected by the critical habitat designation. While real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, we expect any such impacts to be short term. Additionally, critical habitat designation does not preclude development of HCPs and issuance of incidental take permits. Owners of areas

that are included in the designated critical habitat will continue to have opportunity to utilize their property in ways consistent with the survival of the arroyo toad.

6. Federalism

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from and coordinated development of this critical habitat designation with appropriate State resource agencies in California. The designation of critical habitat in areas currently occupied by the arroyo toad imposes no additional restrictions to those currently in place and, therefore, has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments in that the areas essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

7. Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We designated critical habitat in accordance with the provisions of the Endangered Species Act. The rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the arroyo toad.

8. Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any information collection requirements that require OMB approval under the Paperwork Reduction Act.

9. National Environmental Policy Act

We have determined that we do not need to prepare an Environmental Assessment and/or an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 in connection with regulations adopted pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This final determination does not constitute a major Federal action significantly affecting the quality of the human environment.

10. Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951) E.O. 13175, and 512 DM 2, we coordinated with federally recognized Tribes on a Government-to-Government basis. We determined that certain Tribal lands are essential for the conservation of the arroyo toad because they support essential populations and habitat, and activities conducted or planned on those lands may adversely affect the conservation of the arroyo toad. Therefore, we are designating critical habitat for the arroyo toad on some Tribal lands. Information relative to each reservation is included in the critical habitat unit descriptions. We have excluded some areas from critical habitat upon a determination that the lands did not meet the criteria for critical habitat. The changes are detailed in the Changes from the Proposed Rule section.

Relationship to Mexico

We are not aware of any existing national level regulatory mechanism in Mexico that would protect the arroyo toad or its habitat. Although new legislation for wildlife is pending in Mexico and Mexico has laws that could provide protection for rare species, there are enforcement challenges. Even if specific protections were available and enforceable in Mexico, the portion of the arroyo toad's range in Mexico alone, in isolation, would not be adequate to ensure the long-term conservation of the species.

References Cited

A complete list of all references cited in this rulemaking is available upon request from either the Field Supervisor, Ventura Fish and Wildlife Office, or the Field Supervisor, Carlsbad Fish and Wildlife Office (see **ADDRESSES** section).

Author(s)

The primary authors of this rule are Grace McLaughlin (Ventura) and John Stephenson (Carlsbad) (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. In § 17.11(h) revise the entry for ''Toad, arroyo southwestern'' under ''AMPHIBIANS'' to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*		*
AMPHIBIANS							
*	*	*	*	*	*		*
Toad, arroyo (= arroyo south-western).	*Bufo californicus*	U.S.A. (CA), Mexico	Entire	E	568	17.95(d)	NA
*	*	*	*	*	*		*

3. Amend § 17.95(d) by adding critical habitat for the arroyo toad (*Bufo californicus*), in the same alphabetical order as the species occurs in § 17.11(h).

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(d) *Amphibians.*

* * * * *

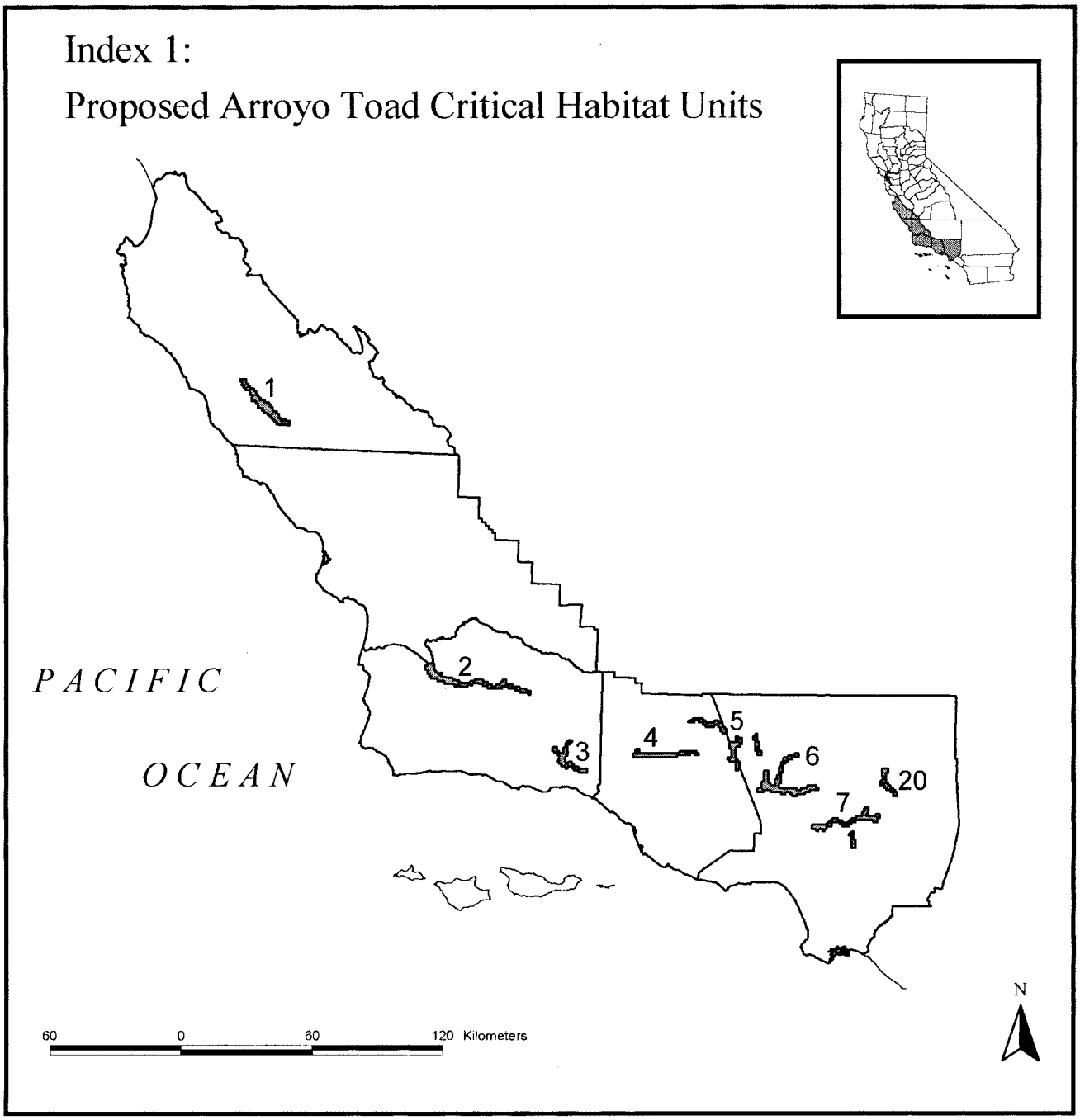
Arroyo Toad (*Bufo californicus*)

1. Critical habitat units are depicted for Monterey, Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego counties, California, on the maps below.

2. Critical habitat includes stream and river courses, riparian habitats, and adjacent terrace and upland habitats.

3. Within these areas, primary constituent elements for the arroyo toad include a hydrologic regime that supplies sufficient flowing water of suitable quality at the appropriate times to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads; low-gradient stream segments (typically less than 4 percent) with sandy or fine gravel substrates which support the formation of shallow pools and sparsely vegetated sand and gravel bars for breeding and rearing of tadpoles and juveniles; a natural flooding regime or one sufficiently corresponding to a natural regime that will periodically scour riparian vegetation, rework stream channels and terraces, and redistribute sands and sediments, such that adequate numbers and sizes of breeding pools and sufficient terrace habitats with appropriate vegetation are maintained to provide for the needs of all life stages of the toad; upland habitats of sufficient width and quality (*i.e.,* with areas of loose, sandy soil where toads can burrow underground) to provide foraging and living areas for subadult and adult arroyo toads (loose, sandy soils are typically most prevalent on alluvial terraces and valley bottomlands and occur primarily, but not exclusively, within 1.5 km (0.9 mi) of the streamcourse and less than 25 m (80 ft) in elevation above the adjacent stream channel); few or no nonnative species that prey upon or compete with arroyo toads, or degrade their habitat; stream channels and upland habitats where manmade barriers do not completely or substantially impede migration to overwintering sites, dispersal between populations, or recolonization of temporarily unoccupied areas that contain suitable habitat; and habitats free of, or with limited levels of, land use activities that substantially reconfigure stream channels, remove or impede the deposition of sand and gravel deposits, compact soils, or crush individual toads (see maps labeled Index 1 and Index 2 for overview of proposed critical habitat).

4. Critical habitat does not include existing features and structures, such as building, aqueducts, airports, and other developed areas not containing one or more of the primary constituent elements.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Proposed Arroyo Toad Critical Habitat Units
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2
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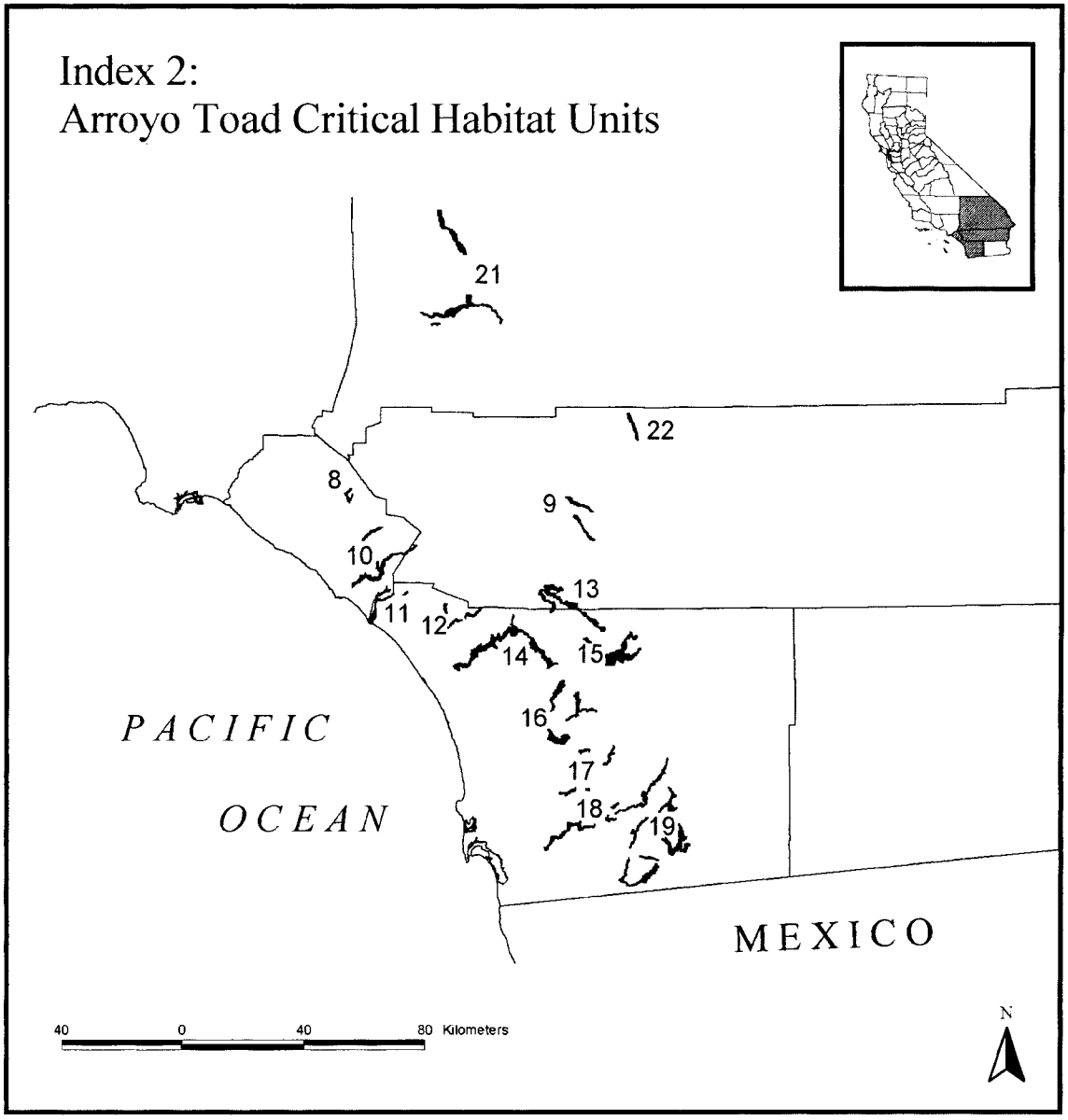
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Arroyo Toad Critical Habitat Units
21
22
8
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19
PACIFIC
OCEAN
MEXICO
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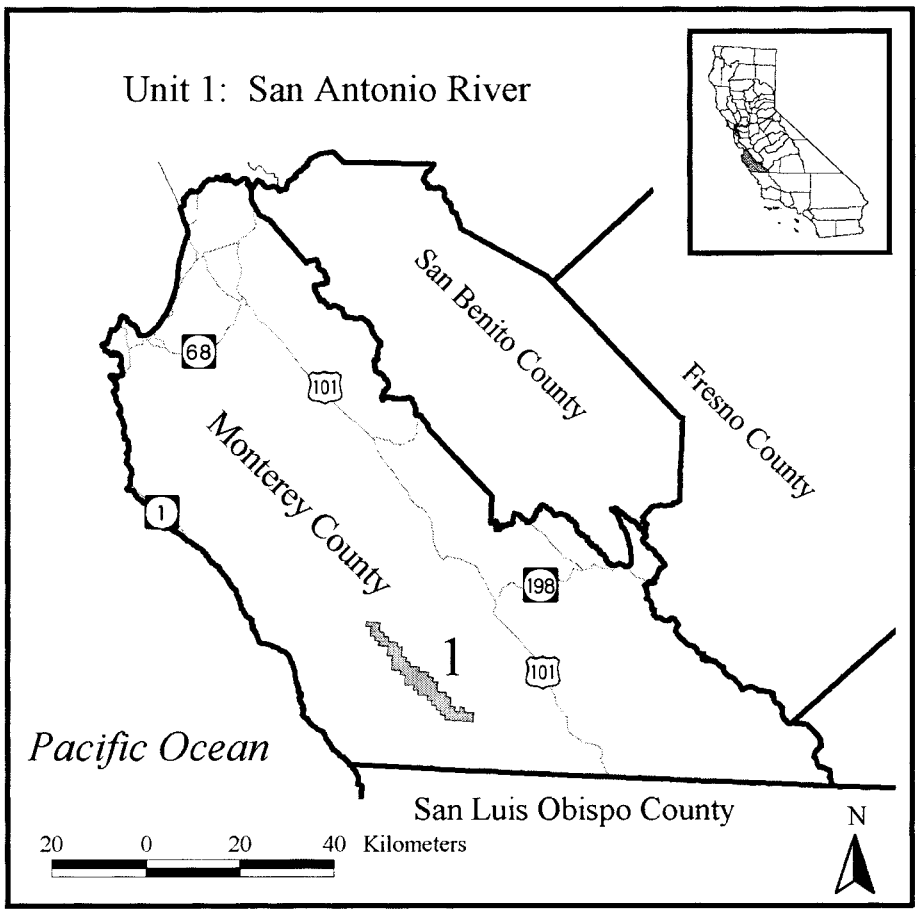
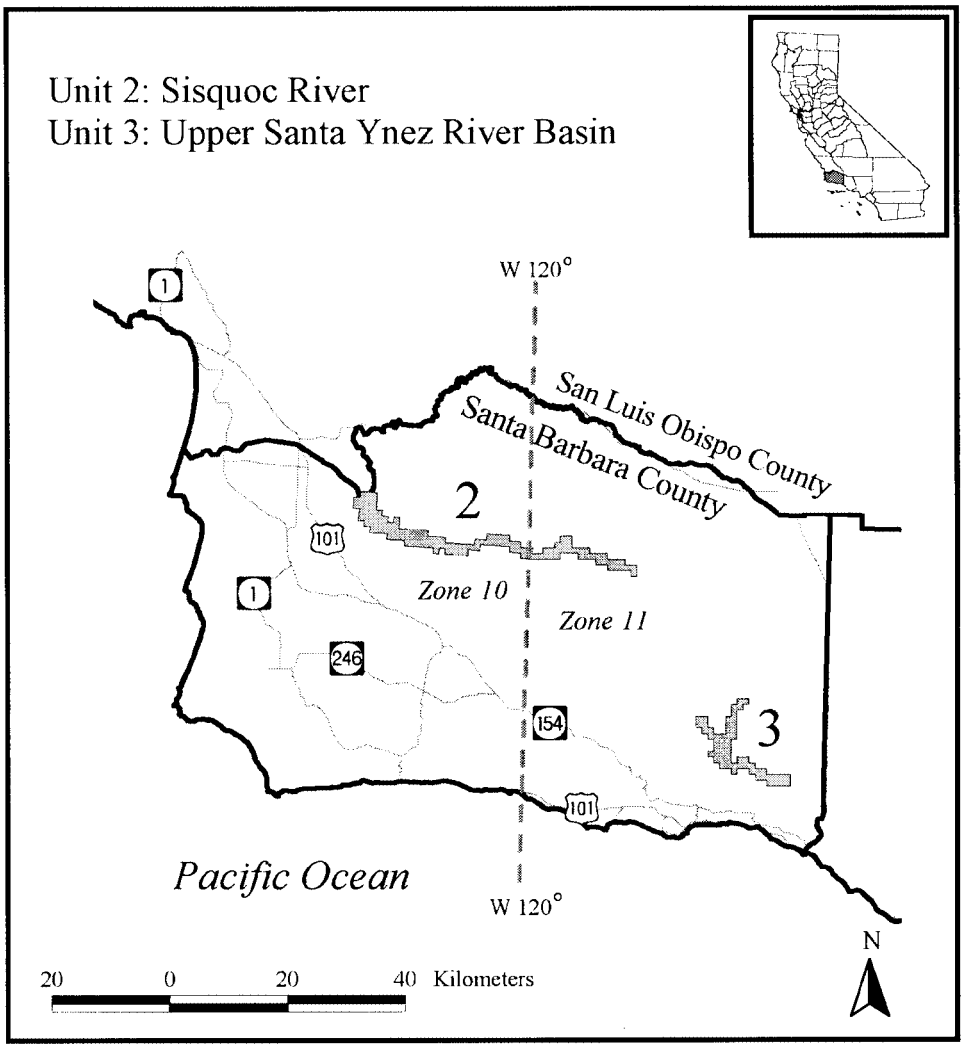


Map Unit 1: San Antonio River, Monterey County, California. From USGS 1:24,000 quadrangle maps Bear Canyon, Cosio Knob, Jolon, and Williams Hill, the lands bounded by the following Universal Transverse Mercator (UTM) zone 10, North American Datum 1927 (NAD27) coordinates (E, N): 656250, 3988250; 655500, 3988250; 655500, 3988750; 657000, 3988750; 657000, 3988250; 656750, 3988250; 656750, 3987750; 657000, 3987750; 657000, 3987000; 657500, 3987000; 657500, 3986500; 658000, 3986500; 658000, 3986000; 658250, 3986000; 658250, 3985750; 658500, 3985750; 658500, 3985500; 658750, 3985500; 658750, 3985000; 659000, 3985000; 659000, 3984500; 659500, 3984500; 659500, 3984000; 659250, 3984000; 659250, 3983750; 659750, 3983750; 659750, 3983500; 660000, 3983500; 660000, 3983250; 660500, 3983250; 660500, 3983000; 660750, 3983000; 660750, 3982750; 661000, 3982750; 661000, 3982500; 661750, 3982500; 661750, 3982250; 662250, 3982250; 662250, 3982000; 663000, 3982000; 663000, 3981500; 663750, 3981500; 663750, 3981250; 664000, 3981250; 664000, 3981000; 664250, 3981000; 664250, 3980750; 664500, 3980750; 664500, 3980500; 664750, 3980500; 664750, 3981000; 665250, 3981000; 665250, 3980000; 665500, 3980000; 665500, 3979750; 665750, 3979750; 665750, 3979250; 666000, 3979250; 666000, 3979000; 666750, 3979000; 666750, 3978500; 667000, 3978500; 667000, 3978000; 667250, 3978000; 667250, 3977750; 667500, 3977750; 667500, 3977500; 668500, 3977500; 668500, 3977000; 668250, 3977000; 668250, 3976500; 668500, 3976500; 668500, 3976250; 668750, 3976250; 668750, 3976000; 669250, 3976000; 669250, 3975250; 669750, 3975250; 669750, 3975000; 670500, 3975000; 670500, 3974750; 670750, 3974750; 670750, 3974500; 671250, 3974500; 671250, 3974250; 671500, 3974250; 671500, 3974000; 672000, 3974000; 672000, 3974250; 672250, 3974250; 672250, 3974500; 672500, 3974500; 672500, 3975000; 673000, 3975000; 673000, 3974750; 673250, 3974750; 673250, 3974500; 673500, 3974500; 673500, 3974250; 674250, 3974250; 674250, 3974000; 674500, 3974000; 674500, 3973750; 674750, 3973750; 674750, 3973000; 674000, 3973000; 674000, 3973250; 673750, 3973250; 673750, 3973500; 673000, 3973500; 673000, 3973750; 672500, 3973750; 672500, 3973250; 671250, 3973250; 671250, 3973500; 671000, 3973500; 671000, 3973750; 670500, 3973750; 670500, 3974000; 669500, 3974000; 669500, 3974250; 669000, 3974250; 669000, 3974500; 668500, 3974500; 668500, 3975250; 668250, 3975250; 668250, 3975500; 667750, 3975500; 667750, 3975750; 667500, 3975750; 667500, 3976250; 667250, 3976250; 667250, 3976500; 667000, 3976500; 667000, 3976750; 666750, 3976750; 666750, 3977000; 666250, 3977000; 666250, 3977250; 665750, 3977250; 665750, 3977500; 665500, 3977500; 665500, 3978000; 665000, 3978000; 665000, 3978250; 664750, 3978250; 664750, 3978750; 664500, 3978750; 664500, 3979000; 663750, 3979000; 663750, 3979250; 663500, 3979250; 663500, 3979750; 663250, 3979750; 663250, 3980000; 662750, 3980000; 662750, 3980250; 662500, 3980250; 662500, 3980500; 662000, 3980500; 662000, 3980750; 661750, 3980750; 661750, 3981000; 661250, 3981000; 661250, 3981250; 661000, 3981250; 661000, 3981500; 660500, 3981500; 660500, 3981750; 660000, 3981750; 660000, 3982000; 659750, 3982000; 659750, 3982250; 659500, 3982250; 659500, 3982500; 659250, 3982500; 659250, 3982750; 659000, 3982750; 659000, 3983000; 658500, 3983000; 658500, 3983250; 658250, 3983250; 658250, 3983500; 658000, 3983500; 658000, 3985000; 657750, 3985000; 657750, 3985250; 657500, 3985250; 657500, 3985750; 657250, 3985750; 657250, 3986250; 657000, 3986250; 657000, 3986500; 656500, 3986500; 656500, 3987250; 656250, 3987250; 656250, 3988250; excluding land bounded by 656250, 3988250; 656500, 3988250; 656500, 3988500; 656250, 3988500; 656250, 3988250.



Map Unit 2: Sisquoc River, Santa Barbara and San Luis Obispo Counties, California. From USGS 1:24,000 quadrangle maps Foxen Canyon, Zaca Lake, Bald Mtn., and Hurricane Deck. Beginning at 120 degrees West Longitude at UTM zone 10, NAD27 y-coordinate 3857500, the lands bounded by the following UTM zone 10, NAD27 coordinates (E, N): 773750, 3837500; 773750, 3858000; 772750, 3858000; 772750, 3858250; 772250, 3858250; 772250, 3858500; 771750, 3858500; 771750, 3859000; 771500, 3859000; 771500, 3859250; 770250, 3859250; 770250, 3859500; 769000, 3859500; 769000, 3859750; 768750, 3859750; 768750, 3860000; 768500, 3860000; 768500, 3859500; 767250, 3859500; 767250, 3859250; 767000, 3859250; 767000, 3859000; 766000, 3859000; 766000, 3858500; 765750, 3858500; 765750, 3858000; 764000, 3858000; 764000, 3857750; 763500, 3857750; 763500, 3858250; 762750, 3858250; 762750, 3858000; 762250, 3858000; 762250, 3857750; 761750, 3857750; 761750, 3857500; 760500, 3857500; 760500, 3857750; 760250, 3857750; 760250, 3858000; 759750, 3858000; 759750, 3858250; 759500, 3858250; 759500, 3858500; 759000, 3858500; 759000, 3858000; 758750, 3858000; 758750, 3857750; 758500, 3857750; 758500, 3858000; 757750, 3858000; 757750, 3858250; 757250, 3858250; 757250, 3858500; 756250, 3858500; 756250, 3858750; 755500, 3858750; 755500, 3858500; 753500, 3858500; 753500, 3859750; 753250, 3859750; 753250, 3860250; 754500, 3860250; 754500, 3860000; 755000, 3860000; 755000, 3860250; 756250, 3860250; 756250, 3860500; 756750, 3860500; 756750, 3859750; 757750, 3859750; 757750, 3859500; 758000, 3859500; 758000, 3859250; 758250, 3859250; 758250, 3859000; 758500, 3859000; 758500, 3858750; 758750, 3858750; 758750, 3859250; 759750, 3859250; 759750, 3859000; 760000, 3859000; 760000, 3858750; 760500, 3858750; 760500, 3858500; 761000, 3858500; 761000, 3858000; 761250, 3858000; 761250, 3858250; 761750, 3858250; 761750, 3858750; 762250, 3858750; 762250, 3859000; 762500, 3859000; 762500, 3858750; 762750, 3858750; 762750, 3859000; 763000, 3859000; 763000, 3858750; 764000, 3858750; 764000, 3858500; 765000, 3858500; 765000, 3858750; 765250, 3858750; 765250, 3859000; 765750, 3859000; 765750, 3859250; 766000, 3859250; 766000, 3859500; 766500, 3859500; 766500, 3859750; 767250, 3859750; 767250, 3860000; 767750, 3860000; 767750, 3860500; 768250, 3860500; 768250, 3860750; 769000, 3860750; 769000, 3860250; 770500, 3860250; 770500, 3860000; 771000, 3860000; 771000, 3859750; 772000, 3859750; 772000, 3859500; 772250, 3859500; 772250, 3859000; 773000, 3859000; 773000, 3858750; 773500, 3858750; 773500, 3858500; 774250, 3858500; 774250, 3858000; to 120 degrees West Longitude at UTM zone 10, NAD27 y-coordinate 3858000; excluding land bounded by 756750, 3859750; 756500, 3859750; 756500, 3859500; 756750, 3859500; 756750, 3859750; thence from 120 degrees West Longitude at UTM zone 11, NAD27 y-coordinate 3858000; the lands bounded by the following UTM zone 11, NAD27 coordinates (E, N): 228250, 3858000; 228250, 3858250; 228500, 3858250; 228500, 3858000; 229500, 3858000; 229500, 3858250; 230250, 3858250; 230250, 3858750; 230500, 3858750; 230500, 3859500; 230750, 3859500; 230750, 3859750; 231500, 3859750; 231500, 3860000; 231750, 3860000; 231750, 3860250; 232250, 3860250; 232250, 3859750; 232500, 3859750; 232500, 3859500; 232750, 3859500; 232750, 3859000; 233000, 3859000; 233000, 3858750; 233750, 3858750; 233750, 3859000; 234000, 3859000; 234000, 3858750; 234250, 3858750; 234250, 3858500; 235250, 3858500; 235250, 3858250; 235500, 3858250; 235500, 3858000; 236500, 3858000; 236500, 3857750; 237500, 3857750; 237500, 3857500; 237750, 3857500; 237750, 3857250; 238500, 3857250; 238500, 3857000; 238750, 3857000; 238750, 3857250; 239000, 3857250; 239000, 3857000; 239500, 3857000; 239500, 3856750; 239750, 3856750;

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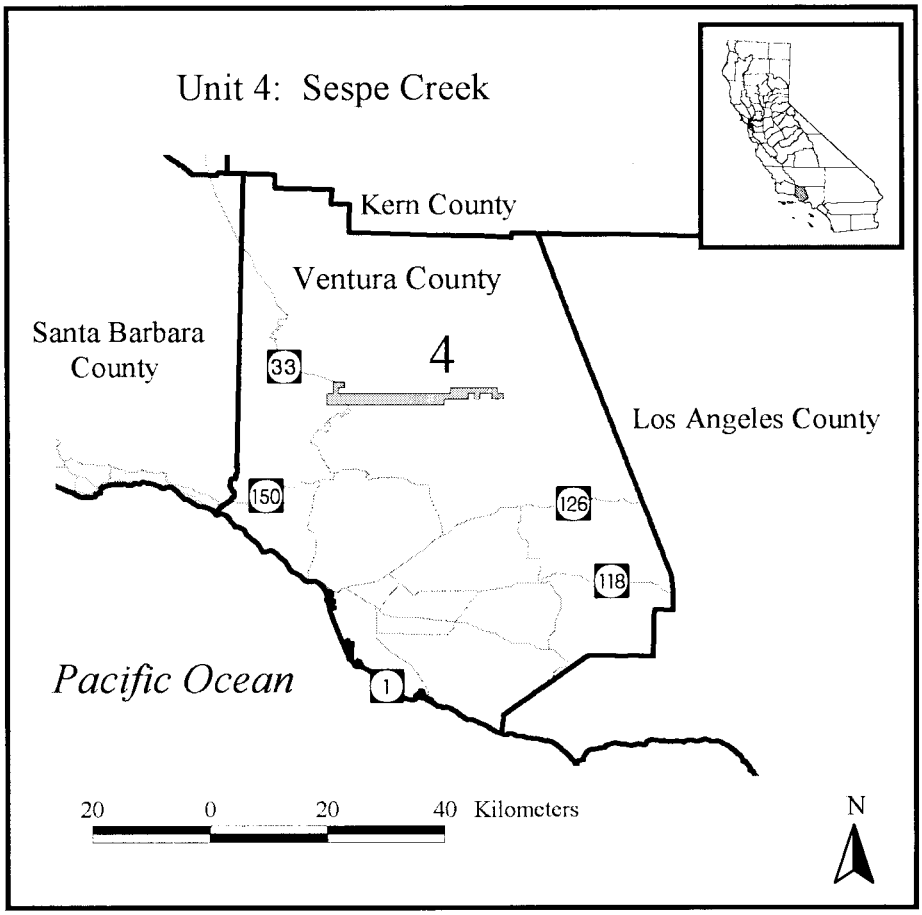
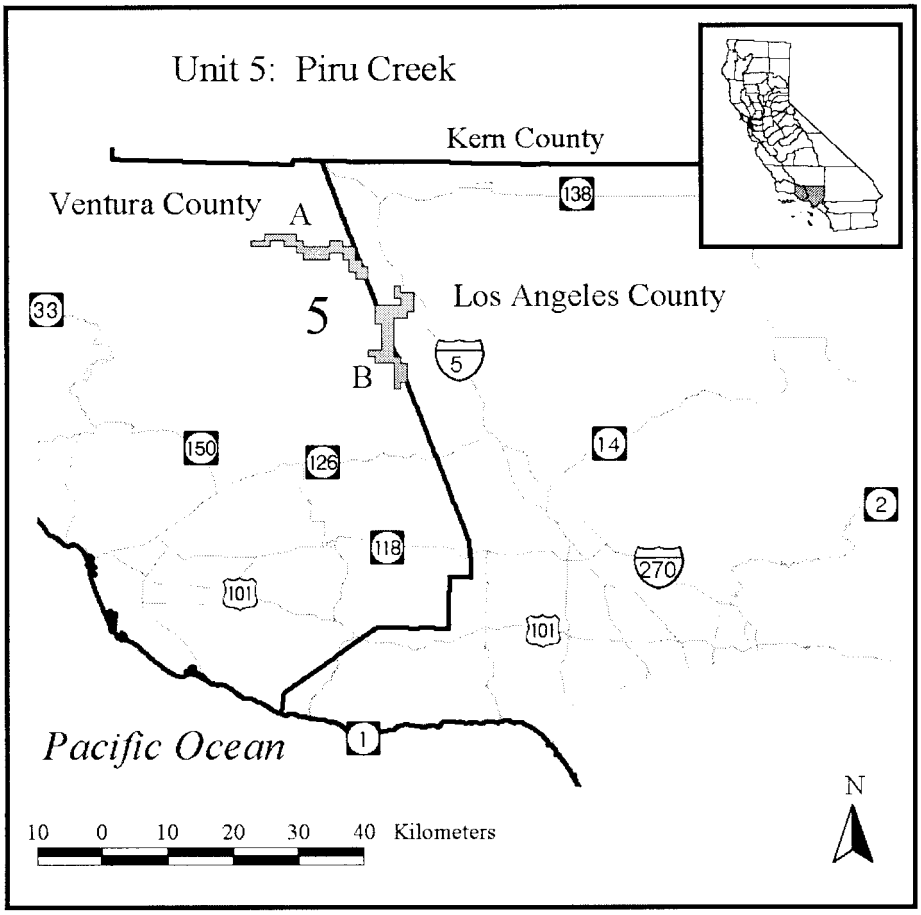
All remaining critical habitat units are in Universal Transverse Mercator zone 11, North American Datum 1927 (NAD27).

Map Unit 3: Upper Santa Ynez River Basin, Santa Barbara County, California. From USGS 1:24,000 quadrangle maps Little Pine Mtn., Hildreth Peak, and Carpinteria, the lands bounded by the following UTM coordinates (E, N): 261750, 3833000; 262500, 3833000; 262500, 3832750; 262250, 3832750; 262250, 3832250; 262000, 3832250; 262000, 3831750; 261750, 3831750; 261750, 3831500; 261500, 3831500; 261500, 3831250; 261250, 3831250; 261250, 3831000; 261000, 3831000; 261000, 3830250; 260750, 3830250; 260750, 3830000; 261000, 3830000; 261000, 3829750; 260750, 3829750; 260750, 3829250; 260500, 3829250; 260500, 3828500; 261000, 3828500; 261000, 3828250; 260750, 3828250; 260750, 3828000; 260500, 3828000; 260500, 3826750; 260250, 3826750; 260250, 3826500; 260000, 3826500; 260000, 3826000; 259500, 3826000; 259500, 3825750; 259750, 3825750; 259750, 3825500; 259500, 3825500; 259500, 3824750; 259000, 3824750; 259000, 3824500; 259500, 3824500; 259500, 3824250; 259000, 3824250; 259000, 3823750; 259250, 3823750; 259250, 3822750; 258750, 3822750; 258750, 3822500; 258500, 3822500; 258500, 3822250; 259000, 3822250; 259000, 3822000; 260250, 3822000; 260250, 3821750; 261000, 3821750; 261000, 3822250; 262000, 3822250; 262000, 3822500; 262250, 3822500; 262250, 3822250; 262750, 3822250; 262750, 3822000; 263750, 3822000; 263750, 3821250; 264000, 3821250; 264000, 3821000; 264750, 3821000; 264750, 3820750; 265000, 3820750; 265000, 3820500; 265250, 3820500; 265250, 3820000; 265500, 3820000; 265500, 3820250; 265750, 3820250; 265750, 3819750; 266500, 3819750; 266500, 3819500; 266750, 3819500; 266750, 3819250; 267750, 3819250; 267750, 3819000; 268500, 3819000; 268500, 3819250; 268750, 3819250; 268750, 3819750; 269500, 3819750; 269500, 3819250; 269250, 3819250; 269250, 3818750; 269000, 3818750; 269000, 3818500; 266500, 3818500; 266500, 3818750; 266250, 3818750; 266250, 3819000; 265250, 3819000; 265250, 3819500; 264750, 3819500; 264750, 3820250; 264250, 3820250; 264250, 3820500; 263750, 3820500; 263750, 3820750; 263500, 3820750; 263500, 3821000; 263000, 3821000; 263000, 3821500; 261250, 3821500; 261250, 3821250; 261000, 3821250; 261000, 3821000; 260750, 3821000; 260750, 3820500; 260250, 3820500; 260250, 3821000; 259750, 3821000; 259750, 3821250; 259000, 3821250; 259000, 3821500; 258500, 3821500; 258500, 3821750; 258250, 3821750; 258250, 3822000; 258000, 3822000; 258000, 3823000; 258250, 3823000; 258250, 3823250; 258500, 3823250; 258500, 3823750; 258000, 3823750; 258000, 3824500; 257750, 3824500; 257750, 3825000; 257500, 3825000; 257500, 3825250; 257250, 3825250; 257250, 3826000; 256750, 3826000; 256750, 3826250; 256500, 3826250; 256500, 3826500; 256250, 3826500; 256250, 3826750; 256000, 3826750; 256000, 3827500; 255500, 3827500; 255500, 3828000; 255250, 3828000; 255250, 3828250; 254750, 3828250; 254750, 3828750; 255000, 3828750; 255000, 3829000; 254750, 3829000; 254750, 3829500; 255250, 3829500; 255250, 3829250; 255500, 3829250; 255500, 3828750; 255750, 3828750; 255750, 3828250; 256000, 3828250; 256000, 3828000; 256250, 3828000; 256250, 3827750; 256500, 3827750; 256500, 3827250; 256750, 3827250; 256750, 3826750; 257250, 3826750; 257250, 3827000; 257750, 3827000; 257750, 3826750; 258000, 3826750; 258000, 3826500; 258250, 3826500; 258250, 3825750; 258000, 3825750; 258000, 3825500; 258250, 3825500; 258250, 3825250; 258500, 3825250; 258500, 3826000; 259250, 3826000; 259250, 3827000; 259500, 3827000; 259500, 3827250; 259750, 3827250; 259750, 3828500; 260000, 3828500; 260000, 3828750; 259750, 3828750; 259750, 3829750; 260250, 3829750; 260250, 3831250; 260500, 3831250; 260500, 3831750; 261000, 3831750; 261000, 3832250; 261250, 3832250; 261250, 3832500; 261500, 3832500; 261500, 3832750; 261750, 3832750; 261750, 3833000.



Map Unit 4: Sespe Creek, Ventura County, California. From USGS 1:24,000 quadrangle maps Wheeler Springs, Lion Canyon, Topatopa Mts., and Devil's Heart Peak, the lands bounded by the following UTM coordinates (E, N): 292750, 3828500; 293250, 3828500; 293250, 3828000; 293000, 3828000; 293000, 3827250; 292750, 3827250; 292750, 3826500; 293250, 3826500; 293250, 3826250; 293500, 3826250; 293500, 3826750; 294000, 3826750; 294000, 3826500; 294750, 3826500; 294750, 3826000; 295000, 3826000; 295000, 3826500; 296250, 3826500; 296250, 3826250; 296500, 3826250; 296500, 3826000; 296750, 3826000; 296750, 3826250; 297750, 3826250; 297750, 3826000; 298000, 3826000; 298000, 3826250; 298250, 3826250; 298250, 3826500; 300250, 3826500; 300250, 3826750; 301750, 3826750; 301750, 3826500; 302750, 3826500; 302750, 3826250; 303000, 3826250; 303000, 3826500; 303750, 3826500; 303750, 3826250; 304250, 3826250; 304250, 3826750; 305000, 3826750; 305000, 3826500; 305250, 3826500; 305250, 3826250; 306500, 3826250; 306500, 3826500; 306750, 3826500; 306750, 3826250; 307000, 3826250; 307000, 3826500; 309500, 3826500; 309500, 3825750; 309750, 3825750; 309750, 3826000; 310250, 3826000; 310250, 3826500; 310750, 3826500; 310750, 3827000; 312000, 3827000; 312000, 3827750; 313000, 3827750; 313000, 3827500; 314750, 3827500; 314750, 3827250; 315000, 3827250; 315000, 3827750; 315250, 3827750; 315250, 3828000; 315750, 3828000; 315750, 3827750; 316250, 3827750; 316250, 3827500; 316500, 3827500; 316500, 3827250; 316750, 3827250; 316750, 3828000; 318750, 3828000; 318750, 3827750; 319250, 3827750; 319250, 3828000; 319500, 3828000; 319500, 3827750; 319750, 3827750; 319750, 3827500; 320000, 3827500; 320000, 3827000; 320500, 3827000; 320500, 3826500; 321000, 3826500; 321000, 3826000; 320750, 3826000; 320750, 3826250; 320250, 3826250; 320250, 3826500; 319750, 3826500; 319750, 3827000; 318750, 3827000; 318750, 3827250; 318500, 3827250; 318500, 3827500; 318250, 3827500; 318250, 3827250; 317250, 3827250; 317250, 3827500; 317000, 3827500; 317000, 3826750; 316250, 3826750; 316250, 3827000; 315750, 3827000; 315750, 3827250; 315500, 3827250; 315500, 3827000; 314500, 3827000; 314500, 3826750; 313000, 3826750; 313000, 3827250; 312500, 3827250; 312500, 3827000; 312750, 3827000; 312750, 3826500; 312500, 3826500; 312500, 3826250; 311000, 3826250; 311000, 3825750; 310500, 3825750; 310500, 3825500; 309000, 3825500; 309000, 3826000; 308250, 3826000; 308250, 3825750; 308000, 3825750; 308000, 3826000; 307500, 3826000; 307500, 3825750; 304750, 3825750; 304750, 3826000; 304500, 3826000; 304500, 3825750; 304250, 3825750; 304250, 3825500; 303750, 3825500; 303750, 3825750; 301750, 3825750; 301750, 3826000; 300250, 3826000; 300250, 3825750; 300000, 3825750; 300000, 3825500; 299500, 3825500; 299500, 3825750; 298250, 3825750; 298250, 3825500; 297500, 3825500; 297500, 3825250; 297250, 3825250; 297250, 3825500; 297000, 3825500; 297000, 3825250; 296500, 3825250; 296500, 3825500; 296250, 3825500; 296250, 3825750; 295750, 3825750; 295750, 3825500; 295250, 3825500; 295250, 3825250; 294500, 3825250; 294500, 3825500; 294250, 3825500; 294250, 3825750; 291750, 3825750; 291750, 3826250; 291500, 3826250; 291500, 3826500; 292000, 3826500; 292000, 3827250; 292500, 3827250; 292500, 3828250; 292750, 3828250; 292750, 3828500.



Map Unit 5: Piru Creek, Ventura and Los Angeles Counties, California

Subunit 5a: From USGS 1:24,000 quadrangle maps Alamo Mtn., and Black Mtn., the lands upstream from Pyramid Lake bounded by the following UTM coordinates (E, N): 318750, 3842750; 319500, 3842750; 319500, 3842500; 319750, 3842500; 319750, 3842750; 320750, 3842750; 320750, 3842500; 321000, 3842500; 321000, 3842250; 322750, 3842250; 322750, 3841750; 323000, 3841750; 323000, 3841500; 323250, 3841500; 323250, 3841000; 325000, 3841000; 325000, 3840750; 325250, 3840750; 325250, 3840250; 325500, 3840250; 325500, 3840500; 326250, 3840500; 326250, 3840250; 326500, 3840250; 326500, 3840500; 327750, 3840500; 327750, 3840750; 328250, 3840750; 328250, 3841250; 328500, 3841250; 328500, 3841750; 329000, 3841750; 329000, 3842000; 329250, 3842000; 329250, 3841750; 329500, 3841750; 329500, 3841500; 329250, 3841500; 329250, 3841250; 329500, 3841250; 329500, 3840750; 330000, 3840750; 330000, 3841000; 330250, 3841000; 330250, 3840750; 330500, 3840750; 330500, 3840500; 331000, 3840500; 331000, 3840250; 331250, 3840250; 331250, 3839750; 331500, 3839750; 331500, 3839250; 332000, 3839250; 332000, 3838500; 332250, 3838500; 332250, 3838250; 332500, 3838250; 332500, 3837750; 332750, 3837750; 332750, 3837500; 333000, 3837500; 333000, 3837750; 333500, 3837750; 333500, 3837500; 333750, 3837500; 333750, 3837000; 334000, 3837000; 334000, 3836500; 333500, 3836500; 333500, 3836750; 333250, 3836750; 333250, 3837250; 333000, 3837250; 333000, 3836750; 332750, 3836750; 332750, 3837000; 332500, 3837000; 332500, 3837250; 332250, 3837250; 332250, 3837500; 332000, 3837500; 332000, 3837750; 331750, 3837750; 331750, 3838000; 331500, 3838000; 331500, 3838250; 331250, 3838250; 331250, 3838750; 331000, 3838750; 331000, 3839000; 330750, 3839000; 330750, 3839500; 330500, 3839500; 330500, 3840000; 330250, 3840000; 330250, 3840250; 329250, 3840250; 329250, 3841000; 329000, 3841000; 329000, 3841250; 328750, 3841250; 328750, 3840500; 328250, 3840500; 328250, 3840250; 327750, 3840250; 327750, 3840000; 327250, 3840000; 327250, 3839750; 326750, 3839750; 326750, 3839500; 326000, 3839500; 326000, 3839750; 324750, 3839750; 324750, 3840500; 323250, 3840500; 323250, 3840750; 323000, 3840750; 323000, 3841000; 322750, 3841000; 322750, 3841250; 322500, 3841250; 322500, 3841500; 322000, 3841500; 322000, 3841750; 321500, 3841750; 321500, 3842000; 319000, 3842000; 319000, 3841500; 318250, 3841500; 318250, 3841250; 317750, 3841250; 317750, 3841000; 317000, 3841000; 317000, 3841750; 318000, 3841750; 318000, 3842000; 318250, 3842000; 318250, 3842250; 318750, 3842250; 318750, 3842750.

Subunit 5b: From USGS 1:24,000 quadrangle maps Black Mountain, Liebre Mountain, Whitaker Peak, and Cobblestone Mountain, the lands between Pyramid Lake and Lake Piru bounded by the following UTM coordinates (E, N): 338250, 3835000; 338500, 3835000; 338500, 3834750; 338750, 3834750; 338750, 3834500; 339000, 3834500; 339000, 3834000; 340000, 3834000; 340000, 3833500; 340250, 3833500; 340250, 3833250; 340500, 3833250; 340500, 3832250; 340250, 3832250; 340250, 3832000; 340500, 3832000; 340500, 3831250; 340000, 3831250; 340000, 3831000; 339750, 3831000; 339750, 3830750; 339500, 3830750; 339500, 3830500; 339000, 3830500; 339000, 3830750; 338250, 3830750; 338250, 3831000; 338000, 3831000; 338000, 3830750; 337750, 3830750; 337750, 3830500; 337000, 3830500; 337000, 3830750; 336750, 3830750; 336750, 3831250; 336500, 3831250; 336500, 3831500; 336000, 3831500; 336000, 3831000; 335500, 3831000; 335500, 3830750; 335750, 3830750; 335750, 3830250; 336500, 3830250; 336500, 3830000; 336750, 3830000; 336750, 3829750; 337250, 3829750; 337250, 3829500; 337500, 3829500; 337500, 3829250; 337750, 3829250; 337750, 3828750; 338000, 3828750; 338000, 3828500; 337750, 3828500; 337750, 3828250; 337250, 3828250; 337250, 3827500; 337500, 3827500; 337500, 3826500; 337250, 3826500; 337250, 3826250; 337500, 3826250; 337500, 3825250; 337250, 3825250; 337250, 3825000; 337500, 3825000; 337500, 3824250; 338000, 3824250; 338000, 3824000; 338500, 3824000; 338500, 3823750; 338750, 3823750; 338750, 3823250; 339000, 3823250; 339000, 3822500; 339250, 3822500; 339250, 3822000; 339000, 3822000; 339000, 3821500; 339250, 3821500; 339250, 3820500; 339750, 3820500; 339750, 3820250; 339500, 3820250; 339500, 3820000; 339000, 3820000; 339000, 3819500; 338250, 3819500; 338250, 3820000; 338000, 3820000; 338000, 3820500; 338500, 3820500; 338500, 3821250; 338250, 3821250;

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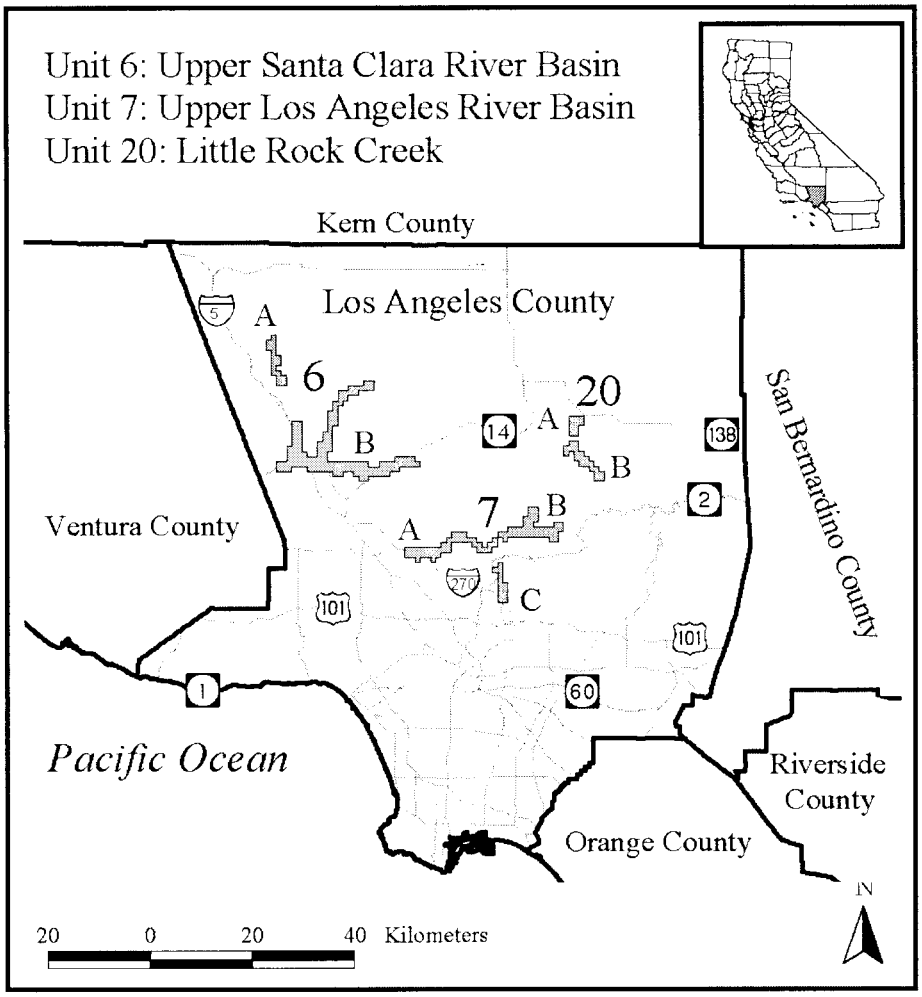

Map Unit 6: Upper Santa Clara River basin, Los Angeles County, California

Subunit 6a: From USGS 1:24,000 quadrangle maps Liebre Mtn. and Whitaker Peak, the lands, upstream of Castaic Lake, bounded by the following UTM coordinates (E, N): 347000, 3835500; 347250, 3835500; 347250, 3835000; 347500, 3835000; 347500, 3834500; 347250, 3834500; 347250, 3834000; 347500, 3834000; 347500, 3833750; 347750, 3833750; 347750, 3832750; 348000, 3832750; 348000, 3831750; 348250, 3831750; 348250, 3831000; 347750, 3831000; 347750, 3830500; 348000, 3830500; 348000, 3830750; 348500, 3830750; 348500, 3830250; 348250, 3830250; 348250, 3830000; 347750, 3830000; 347750, 3829500; 348000, 3829500; 348000, 3829000; 348250, 3829000; 348250, 3828750; 348750, 3828750; 348750, 3828250; 349000, 3828250; 349000, 3828000; 349250, 3828000; 349250, 3827750; 349500, 3827750; 349500, 3827000; 349250, 3827000; 349250, 3826750; 348750, 3826750; 348750, 3827250; 348500, 3827250; 348500, 3827750; 348250, 3827750; 348250, 3828000; 348000, 3828000; 348000, 3828250; 347750, 3828250; 347750, 3828500; 347500, 3828500; 347500, 3828750; 347250, 3828750; 347250, 3829250; 347000, 3829250; 347000, 3830750; 347250, 3830750; 347250, 3831000; 347500, 3831000; 347500, 3831250; 347750, 3831250; 347750, 3831750; 347500, 3831750; 347500, 3832250; 347750, 3832250; 347750, 3832500; 347500, 3832500; 347500, 3832750; 347250, 3832750; 347250, 3833500; 346750, 3833500; 346750, 3834250; 347000, 3834250; 347000, 3835500.

Subunit 6b: From USGS 1:24,000 quadrangle maps Warm Springs Mountain, Val Verde, and Newhall, the lands bounded by the following UTM coordinates (E, N): 351500, 3819000; 352000, 3819000; 352000, 3818500; 352250, 3818500; 352250, 3818750; 352500, 3818750; 352500, 3817500; 353000, 3817500; 353000, 3816750; 352750, 3816750; 352750, 3816000; 352500, 3816000; 352500, 3815500; 352750, 3815500; 352750, 3814500; 353000, 3814500; 353000, 3814250; 352750, 3814250; 352750, 3813250; 352500, 3813250; 352500, 3813000; 352250, 3813000; 352250, 3812750; 352500, 3812750; 352500, 3812000; 352750, 3812000; 352750, 3811500; 352500, 3811500; 352500, 3811250; 352000, 3811250; 352000, 3811000; 351750, 3811000; 351750, 3810750; 351500, 3810750; 351500, 3810250;

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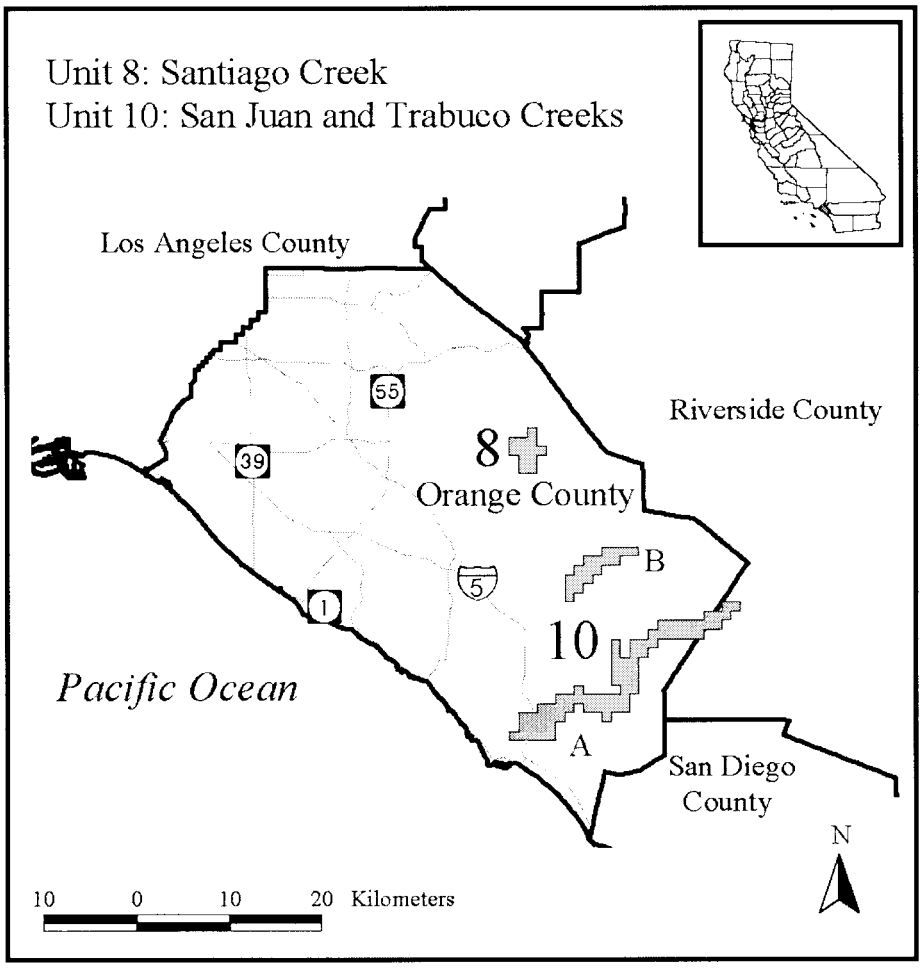
Subunit 6c: From USGS 1:24,000 quadrangle maps Warm Springs Mtn., Green Valley, and Newhall, the lands bounded by the following UTM coordinates (E, N): 365750, 3826500; 366000, 3826500; 366000, 3826250; 366250, 3826250; 366250, 3825750; 365500, 3825750; 365500, 3825500; 365000, 3825500; 365000, 3825250; 364500, 3825250; 364500, 3825000; 364000, 3825000; 364000, 3824750; 363500, 3824750; 363500, 3824500; 363000, 3824500; 363000, 3824250; 362500, 3824250; 362500, 3824000; 362000, 3824000; 362000, 3823750; 361500, 3823750; 361500, 3823500; 361250, 3823500; 361250, 3823250; 361000, 3823250; 361000, 3823000; 360750, 3823000; 360750, 3822750; 360500, 3822750; 360500, 3822500; 360250, 3822500; 360250, 3822000; 360000, 3822000; 360000, 3821250; 359750, 3821250; 359750, 3820750; 359500, 3820750; 359500, 3820500; 359750, 3820500; 359750, 3820250; 359500, 3820250; 359500, 3819750; 359250, 3819750; 359250, 3818750; 359000, 3818750; 359000, 3817500; 358750, 3817500; 358750, 3815750; 358500, 3815750; 358500, 3815250; 358250, 3815250; 358250, 3814750; 357000, 3814750; 357000, 3815750; 357250, 3815750; 357250, 3816000; 357500, 3816000; 357500, 3816250; 357750, 3816250; 357750, 3816750; 358000, 3816750; 358000, 3818750; 358250, 3818750; 358250, 3819000; 358500, 3819000; 358500, 3819750; 358750, 3819750; 358750, 3820500; 359000, 3820500; 359000, 3821750; 359250, 3821750; 359250, 3822000; 359500, 3822000; 359500, 3823000; 360000, 3823000; 360000, 3823250; 360250, 3823250; 360250, 3823750; 360750, 3823750; 360750, 3824750; 361750, 3824750; 361750, 3824500; 362000, 3824500; 362000, 3824750; 362250, 3824750; 362250, 3825000; 362500, 3825000; 362500, 3825250; 362750, 3825250; 362750, 3825000; 363000, 3825000; 363000, 3825250; 363250, 3825250; 363250, 3825750; 363500, 3825750; 363500, 3825500; 363750, 3825500; 363750, 3825750; 364500, 3825750; 364500, 3826000; 365250, 3826000; 365250, 3826250; 365750, 3826250; 365750, 3826500.

Map Unit 7: Upper Los Angeles River Basin, Los Angeles County, California

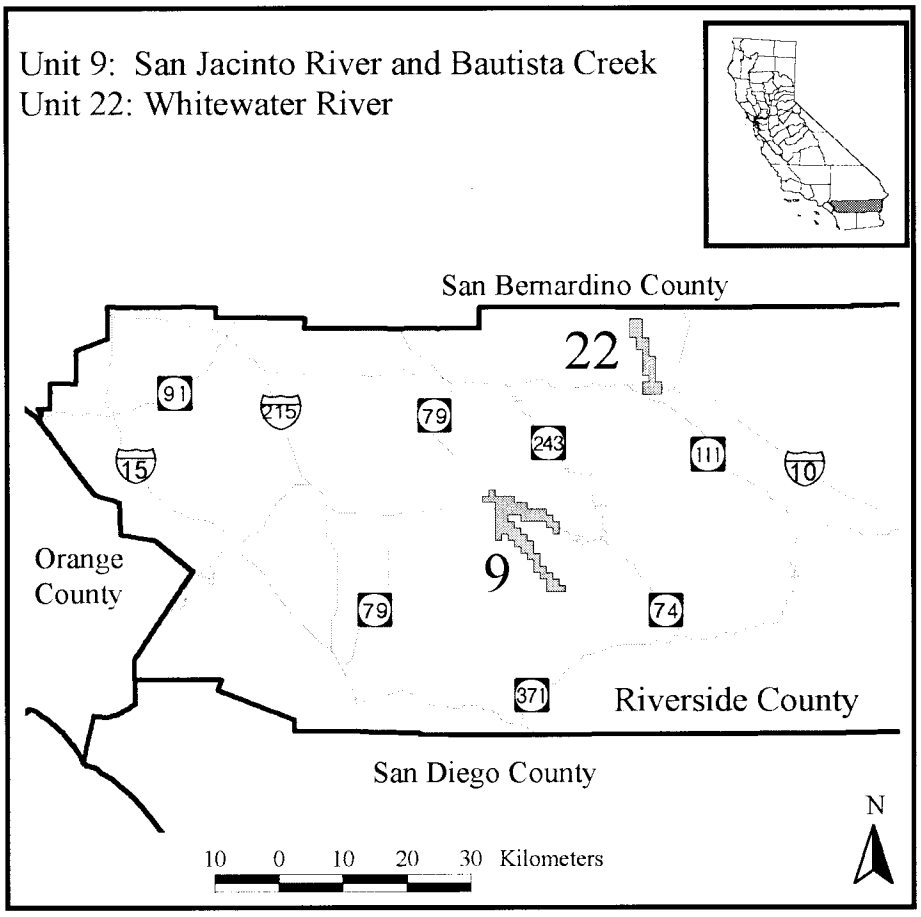
Subunit 7a: From USGS 1:24,000 quadrangle maps Sunland and Condor Peak, the lands in the Big Tujunga Creek basin bounded by the following UTM coordinates (E, N): 379750, 3793000; 379750, 3792500; 379500, 3792500; 379500, 3792250; 379250, 3792250; 379250, 3792000; 379000, 3792000; 379000, 3791750; 378500, 3791750; 378500, 3791500; 378250, 3791500; 378250, 3792000; 375500, 3792000; 375500, 3793500; 376750, 3793500; 376750, 3793250; 378500, 3793250; 378500, 3793500; 379000, 3793500; 379000, 3793750; 379500, 3793750; 379500, 3794000; 380250, 3794000; 380250, 3794250; 380750, 3794250; 380750, 3794750; 381000, 3794750; 381000, 3795000; 381250, 3795000; 381250, 3795250; 381500, 3795250; 381500, 3795500; 381750, 3795500; 381750, 3795750; 382000, 3795750; 382000, 3796000; 382250, 3796000; 382250, 3796250; 383750, 3796250; 383750, 3796500; 384750, 3796500; 384750, 3796250; 385000, 3796250; 385000, 3796000; 385250, 3796000; 385250, 3795750; 386000, 3795750; 386000, 3795500; 386250, 3795500; 386250, 3795250; 386750, 3795250; 386750, 3794750; 387250, 3794750; 387250, 3794500; 387500, 3794500; 387500, 3794250; 387750, 3794250; 387750, 3794000; 388000, 3794000; 388000, 3793750; 389250, 3793750; 389250, 3794000; 389500, 3794000; 389500, 3794250; 389750, 3794250; 389750, 3794500; 390000, 3794500; 390000, 3795000; 390500, 3795000; 390500, 3795250; 390750, 3795250; 390750, 3794750; 390500, 3794750; 390500, 3794000; 390000, 3794000; 390000, 3793750; 389750, 3793750; 389750, 3793500; 389500, 3793500; 389500, 3793250; 388750, 3793250; 388750, 3793000; 387750, 3793000; 387750, 3793250; 387500, 3793250; 387500, 3793750; 387250, 3793750; 387250, 3794000; 387000, 3794000; 387000, 3794250; 386500, 3794250; 386500, 3794500; 386250, 3794500; 386250, 3794750; 386000, 3794750; 386000, 3795000; 385500, 3795000; 385500, 3795250; 385250, 3795250; 385250, 3795500; 384750, 3795500; 384750, 3795750; 384500, 3795750; 384500, 3796000; 384000, 3796000; 384000, 3795500; 383500, 3795500; 383500, 3795750; 382500, 3795750; 382500, 3795500; 382250, 3795500; 382250, 3795250; 382000, 3795250; 382000, 3795000; 381750, 3795000; 381750, 3794500; 381500, 3794500; 381500, 3793500; 380750, 3793500; 380750, 3793250; 380250, 3793250; 380250, 3793000; 379750, 3793000; excluding land bounded by 379750, 3793000; 379750, 3793250; 379500, 3793250; 379500, 3793000; 379750, 3793000.

Subunit 7b: From USGS 1:24,000 quadrangle maps Condor Peak and Chilao Flat, the lands bounded by the following UTM coordinates (E, N): 397750, 3801250; 398250, 3801250; 398250, 3799500; 398000, 3799500; 398000, 3799250; 397750, 3799250; 397750, 3799000; 397500, 3799000; 397500, 3798750; 397000, 3798750; 397000, 3798250; 396750, 3798250; 396750, 3798000; 396500, 3798000; 396500, 3797750; 396250, 3797750; 396250, 3797500; 395750, 3797500; 395750, 3797000; 396000, 3797000; 396000, 3797250; 397750, 3797250; 397750, 3797000; 398250, 3797000; 398250, 3797250; 400000, 3797250; 400000, 3797500; 400500, 3797500; 400500, 3797250; 400750, 3797250; 400750, 3797000; 401250, 3797000; 401250, 3797250; 401500, 3797250; 401500, 3797750; 402000, 3797750; 402000, 3798000; 402500, 3798000; 402500, 3798250; 403500, 3798250; 403500, 3798000; 403750, 3798000; 403750, 3797750; 403500, 3797750; 403500, 3797500; 403250, 3797500; 403250, 3797750; 402750, 3797750; 402750, 3797500; 402250, 3797500; 402250, 3797250; 402000, 3797250; 402000, 3797000; 401750, 3797000; 401750, 3796750; 402000, 3796750; 402000, 3796500; 402500, 3796500; 402500, 3796000; 402750, 3796000; 402750, 3795500; 403000, 3795500; 403000, 3795000; 402500, 3795000; 402500, 3795500; 402250, 3795500; 402250, 3795750; 401750, 3795750; 401750, 3796000; 401500, 3796000; 401500, 3796250; 401250, 3796250; 401250, 3796500; 401000, 3796500; 401000, 3796250; 400250, 3796250; 400250, 3796500; 398250, 3796500; 398250, 3796250; 397500, 3796250; 397500, 3796500; 397250, 3796500; 397250, 3796750; 396000, 3796750; 396000, 3796500; 395500, 3796500; 395500, 3796750; 394750, 3796750; 394750, 3796500; 394250, 3796500; 394250, 3796750; 393750, 3796750; 393750, 3796250; 392750, 3796250; 392750, 3796000; 392500, 3796000; 392500, 3795750; 392000, 3795750; 392000, 3796250; 392250, 3796250; 392250, 3796500; 392750, 3796500; 392750, 3796750; 393500, 3796750; 393500, 3797000; 393750, 3797000; 393750, 3797250; 394250, 3797250; 394250, 3797000; 394750, 3797000; 394750, 3797750; 395250, 3797750; 395250, 3798000; 396000, 3798000; 396000, 3798500; 396250, 3798500; 396250, 3799000; 396750, 3799000; 396750, 3799500; 397500, 3799500; 397500, 3800000; 397750, 3800000; 397750, 3801250.

Subunit 7c: From USGS 1:24,000 quadrangle maps Condor Peak and Pasadena, the lands bounded by the following UTM coordinates (E, N): 391500, 3790750; 392000, 3790750; 392000, 3790000; 391750, 3790000; 391750, 3789750; 391250, 3789750; 391250, 3789500; 391500, 3789500; 391500, 3789000; 391750, 3789000; 391750, 3788500; 392000, 3788500; 392000, 3787750; 391750, 3787750; 391750, 3787000; 392000, 3787000; 392000, 3786500; 392250, 3786500; 392250, 3786000; 392500, 3786000; 392500, 3785750; 392750, 3785750; 392750, 3785500; 393000, 3785500; 393000, 3784750; 392750, 3784750; 392750, 3784250; 392500, 3784250; 392500, 3784000; 391750, 3784000; 391750, 3784750; 392000, 3784750; 392000, 3785000; 392250, 3785000; 392250, 3785500; 391750, 3785500; 391750, 3786250; 391500, 3786250; 391500, 3786750; 391250, 3786750; 391250, 3788000; 391500, 3788000; 391500, 3788250; 391250, 3788250; 391250, 3788750; 391000, 3788750; 391000, 3789000; 390750, 3789000; 390750, 3790000; 391000, 3790000; 391000, 3790250; 391250, 3790250; 391250, 3790500; 391500, 3790500; 391500, 3790750.



Map Unit 8: Santiago Creek, Orange County. From USGS 1:24,000 quadrangle maps Black Star Canyon and El Toro, the lands bounded by the following UTM coordinates (E, N): 438250, 3734750; 438250, 3734500; 438500, 3734500; 438500, 3734000; 438000, 3734000; 438000, 3734250; 437750, 3734250; 437750, 3734500; 437500, 3734500; 437500, 3735000; 437250, 3735000; 437250, 3736000; 437000, 3736000; 437000, 3736500; 436750, 3736500; 436750, 3737000; 436500, 3737000; 436500, 3737500; 436750, 3737500; 436750, 3737250; 437000, 3737250; 437000, 3737500; 437250, 3737500; 437250, 3737750; 437500, 3737750; 437500, 3738000; 438000, 3738000; 438000, 3738500; 438250, 3738500; 438250, 3738750; 439000, 3738750; 439000, 3738250; 438500, 3738250; 438500, 3737750; 438250, 3737750; 438250, 3737500; 437750, 3737500; 437750, 3737000; 437500, 3737000; 437500, 3736250; 437750, 3736250; 437750, 3736000; 438000, 3736000; 438000, 3735500; 438500, 3735500; 438500, 3735750; 438750, 3735750; 438750, 3736500; 439000, 3736500; 439000, 3737000; 439500, 3737000; 439500, 3736250; 439250, 3736250; 439250, 3736000; 439000, 3736000; 439000, 3735250; 438750, 3735250; 438750, 3734750; 438250, 3734750; excluding land bounded by 438250, 3734750; 438250, 3735000; 438000, 3735000; 438000, 3734750; 438250, 3734750.



Map Unit 9: San Jacinto River and Bautista Creek, Riverside County.

Subunit 9a: From USGS 1:24,000 quadrangle maps San Jacinto, Lake Fulmor, Hemet and Blackburn Canyon, the lands bounded by the following UTM coordinates (E, N): 509750, 3736000; 511500, 3736000; 511500, 3735750; 512000, 3735750; 512000, 3734750; 512250, 3734750; 512250, 3734500; 513000, 3734500; 513000, 3734250; 513750, 3734250; 513750, 3734000; 514250, 3734000; 514250, 3733750; 514500, 3733750; 514500, 3733500; 515750, 3733500; 515750, 3733250; 516250, 3733250; 516250, 3733000; 517250, 3733000; 517250, 3732750; 517500, 3732750; 517500, 3732500; 517750, 3732500; 517750, 3732250; 518000, 3732250; 518000, 3731750; 518250, 3731750; 518250, 3731500; 518500, 3731500; 518500, 3731250; 518750, 3731250; 518750, 3731000; 519000, 3731000; 519000, 3730750; 518000, 3730750; 518000, 3731250; 517500, 3731250; 517500, 3732000; 517000, 3732000; 517000, 3732250; 516500, 3732250; 516500, 3732500; 516000, 3732500; 516000, 3732750; 515750, 3732750; 515750, 3732500; 515500, 3732500; 515500, 3732750; 513500, 3732750; 513500, 3733000; 513250, 3733000; 513250, 3733250; 512500, 3733250; 512500, 3733750; 511250, 3733750; 511250, 3734500; 511000, 3734500; 511000, 3734750; 510750, 3734750; 510750, 3735000; 510500, 3735000; 510500, 3735500; 509750, 3735500; 509750, 3736000.

Subunit 9b: From USGS 1:24,000 quadrangle map Blackburn Canyon, the lands bounded by the following UTM coordinates (E, N): 512750, 3730000; 513000, 3730000; 513000, 3729750; 513750, 3729750; 513750, 3729250; 514000, 3729250; 514000, 3729000; 514250, 3729000; 514250, 3728750; 514500, 3728750; 514500, 3728250; 514750, 3728250; 514750, 3728000; 514500, 3728000; 514500, 3727750; 514750, 3727750; 514750, 3727250; 515000, 3727250; 515000, 3726750; 515250, 3726750; 515250, 3726500; 515500, 3726500; 515500, 3725750; 515750, 3725750; 515750, 3725500; 516000, 3725500; 516000, 3725000; 516250, 3725000; 516250, 3724750; 516500, 3724750; 516500, 3724500; 516750, 3724500; 516750, 3724250; 517000, 3724250; 517000, 3724000; 517250, 3724000; 517250, 3723500; 517500, 3723500; 517500, 3723000; 518000, 3723000; 518000, 3722750; 518250, 3722750; 518250, 3722250; 518500, 3722250; 518500, 3722000; 519250, 3722000; 519250, 3721750; 519500, 3721750; 519500, 3721500; 519250, 3721500; 519250, 3721250; 518750, 3721250; 518750, 3721500; 518000, 3721500; 518000, 3721750; 517750, 3721750; 517750, 3722000; 517500, 3722000; 517500, 3722250; 517250, 3722250; 517250, 3722500; 517000, 3722500; 517000, 3723000; 516750, 3723000; 516750, 3723500; 516500, 3723500; 516500, 3724000; 516250, 3724000; 516250, 3724250; 515750, 3724250; 515750, 3724500; 515500, 3724500; 515500, 3725250; 515250, 3725250; 515250, 3725750; 515000, 3725750; 515000, 3726250; 514750, 3726250; 514750, 3726750; 514500, 3726750; 514500, 3727250; 514000, 3727250; 514000, 3727500; 513750, 3727500; 513750, 3728250; 513500, 3728250; 513500, 3728500; 513000, 3728500; 513000, 3728750; 512750, 3728750; 512750, 3729000; 512250, 3729000; 512250, 3729500; 512500, 3729500; 512500, 3729750; 512750, 3729750; 512750, 3730000.

Map Unit 10 (see Map of Units 8 and 10): San Juan and Trabuco Creeks, Orange and Riverside Counties, California

Subunit 10a: From USGS 1:24,000 quadrangle maps Dana Point, San Juan Capistrano, Canada Gobernadora and Sitton Peak, the lands bounded by the following UTM coordinates (E, N): 459500, 3720000; 459750, 3720000; 459750, 3719750; 460000, 3719750; 460000, 3720000; 460500, 3720000; 460500, 3719500; 460250, 3719500; 460250, 3719250; 460000, 3719250; 460000, 3718750; 459500, 3718750; 459500, 3718500; 459250, 3718500; 459250, 3718250; 458750, 3718250; 458750, 3718000; 458500, 3718000; 458500, 3717750; 457500, 3717750; 457500, 3717250; 457250, 3717250; 457250, 3717000; 457000, 3717000; 457000, 3716750; 456500, 3716750; 456500, 3716500; 456250, 3716500; 456250, 3716750; 456000, 3716750; 456000, 3716500; 455750, 3716500; 455750, 3716750; 455500, 3716750; 455500, 3717000; 454750, 3717000; 454750, 3716750; 454000, 3716750; 454000, 3716500; 452500, 3716500; 452500, 3716250; 452250, 3716250; 452250, 3716000; 452000, 3716000; 452000, 3715750; 451750, 3715750; 451750, 3715500; 451500, 3715500; 451500, 3715250; 451250, 3715250; 451250, 3715000; 451000, 3715000; 451000, 3714750; 450000, 3714750; 450000, 3714000; 449750, 3714000; 449750, 3713500; 450000, 3713500; 450000,

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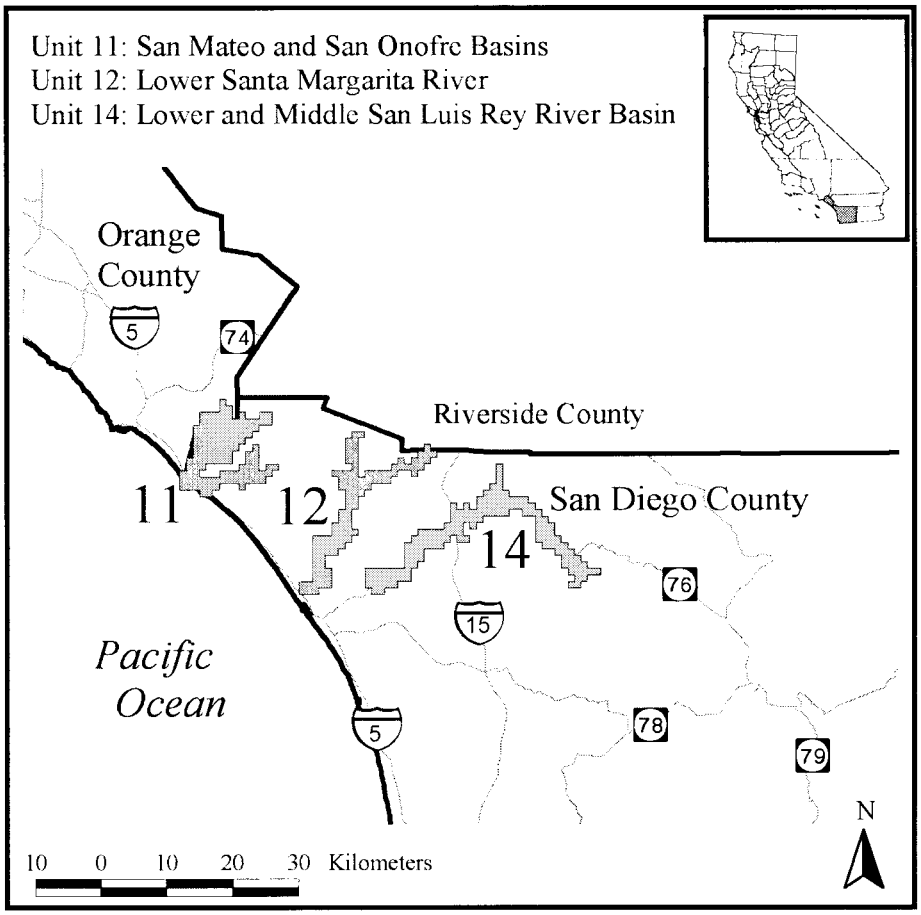
Subunit 10b: From USGS 1:24,000 quadrangle map Santiago Peak, the lands bounded by the following UTM coordinates (E, N): 448000, 3726000; 449250, 3726000; 449250, 3725500; 448500, 3725500; 448500, 3725250; 448250, 3725250; 448250, 3725000; 447750, 3725000; 447750, 3724750; 447250, 3724750; 447250, 3724500; 446750, 3724500; 446750, 3724250; 446000, 3724250; 446000, 3724000; 445500, 3724000; 445500, 3723750; 445250, 3723750; 445250, 3723500; 445000, 3723500; 445000, 3723250; 444500, 3723250; 444500, 3722750; 444250, 3722750; 444250, 3722500; 443750, 3722500; 443750, 3722250; 443500, 3722250; 443500, 3722000; 443250, 3722000; 443250, 3721250; 442250, 3721250; 442250, 3721750; 442500, 3721750; 442500, 3722250; 442750, 3722250; 442750, 3722500; 443000, 3722500; 443000, 3722750; 443250, 3722750; 443250, 3723000; 443500, 3723000; 443500, 3723250; 443750, 3723250; 443750, 3723500; 444000, 3723500; 444000, 3723750; 444250, 3723750; 444250, 3724000; 444750, 3724000; 444750, 3724500; 445250, 3724500; 445250, 3725000; 445500, 3725000; 445500, 3724750; 445750, 3724750; 445750, 3725000; 446250, 3725000; 446250, 3725250; 446500, 3725250; 446500, 3725000; 446750, 3725000; 446750, 3725250; 447250, 3725250; 447250, 3725500; 447500, 3725500; 447500, 3725750; 448000, 3725750; 448000, 3726000.



Map Unit 11: San Mateo and San Onofre Basins, Orange and Riverside Counties, California

Subunit 11a: From USGS 1:24,000 quadrangle map San Clemente, the lands bounded by the following UTM coordinates (E, N): 450500, 3706250; 450750, 3706250; 450750, 3705000; 451250, 3705000; 451250, 3705250; 451750, 3705250; 451750, 3704750; 451500, 3704750; 451500, 3704250; 450000, 3704250; 450000, 3704000; 449750, 3704000; 449750, 3703750; 449250, 3703750; 449250, 3703500; 449000, 3703500; 449000, 3703250; 448500, 3703250; 448500, 3703000; 448250, 3703000; 448250, 3702750; 447500, 3702750; 447500, 3701750; 447750, 3701750; 447750, 3702000; 448500, 3702000; 448500, 3701750; 449500, 3701750; 449500, 3702000; 450000, 3702000; 450000, 3702250; 450250, 3702250; 450250, 3702500; 450750, 3702500; 450750, 3702750; 451500, 3702750; 451500, 3703000; 452000, 3703000; 452000, 3703250; 452250, 3703250; 452250, 3703750; 452750, 3703750; 452750, 3703250; 452500, 3703250; 452500, 3703000; 452250, 3703000; 452250, 3702750; 452000, 3702750; 452000, 3702500; 451500, 3702500; 451500, 3702250; 451000, 3702250; 451000, 3702000; 450500, 3702000; 450500, 3701750; 450250, 3701750; 450250, 3701500; 449500, 3701500; 449500, 3701250; 448250, 3701250; 448250, 3701500; 447250, 3701500; 447250, 3700750; 447000, 3700750; 447000, 3698750; 447250, 3698750; 447250, 3697500; 447000, 3697500; 447000, 3697250; 447250, 3697250; 447250, 3696000; 447000, 3696000; 447000, 3695750; 446750, 3695750; 446750, 3695250; 446500, 3695250; 446500, 3695000; 446250, 3695000; 446250, 3694500; 446000, 3694500; 446000, 3694250; 445750, 3694250; 445750, 3694000; 446000, 3694000; 446000, 3693500; 445250, 3693500; 445250, 3693750; 444750, 3693750; 444750, 3694000; 444500, 3694000; 444500, 3695500; 445000, 3695500; 445000, 3695750; 445250, 3695750; 445250, 3696250; 445500, 3696250; 445500, 3696750; 445750, 3696750; 445750, 3697250; 446000, 3697250; 446000, 3697750; 446250, 3697750; 446250, 3698250; 446500, 3698250; 446500, 3698500; 446750, 3698500; 446750, 3698750; 446500, 3698750; 446500, 3700750; 446750, 3700750; 446750, 3702750; 447000, 3702750; 447000, 3703250; 447250, 3703250; 447250, 3703500; 447500, 3703500; 447500, 3704250; 448000, 3704250; 448000, 3703750; 448500, 3703750; 448500, 3704000; 448750, 3704000; 448750, 3704250; 449250, 3704250; 449250, 3704500; 449750, 3704500; 449750, 3705000; 450250, 3705000; 450250, 3706000; 450500, 3706000; 450500, 3706250.

Subunit 11b: From USGS 1:24,000 quadrangle map Margarita Peak, the lands bounded by the following UTM coordinates (E, N): 457000, 3704500; 457500, 3704500; 457500, 3703750; 457000, 3703750; 457000, 3703500; 456750, 3703500; 456750, 3703250; 455750, 3703250; 455750, 3703500; 456250, 3703500; 456250, 3703750; 456500, 3703750; 456500, 3704250; 457000, 3704250; 457000, 3704500.

Map Unit 12: Lower Santa Margarita Basin, San Diego County, California

Subunit 12a: From USGS 1:24,000 quadrangle map Fallbrook, the lands bounded by the following UTM coordinates (E, N): 469750, 3700500; 470750, 3700500; 470750, 3700000; 470500, 3700000; 470500, 3699750; 470250, 3699750; 470250, 3698750; 470500, 3698750; 470500, 3697500; 470750, 3697500; 470750, 3697000; 470500, 3697000; 470500, 3697250; 470250, 3697250; 470250, 3697000; 470000, 3697000; 470000, 3697750; 469750, 3697750; 469750, 3698250; 469500, 3698250; 469500, 3698500; 469250, 3698500; 469250, 3699000; 469500, 3699000; 469500, 3699500; 469250, 3699500; 469250, 3700000; 469500, 3700000; 469500, 3700250; 469750, 3700250; 469750, 3700500.

Subunit 12b: From USGS 1:24,000 quadrangle maps Fallbrook, Morro Hill, and Temecula, the lands bounded by the following UTM coordinates (E, N): 473500, 3695500; 474000, 3695500; 474000, 3695250; 474250, 3695250; 474250, 3695000; 475750, 3695000; 475750, 3694750; 475000, 3694750; 475000, 3694500; 474750, 3694500; 474750, 3694250; 473750, 3694250; 473750, 3694750; 473500, 3694750; 473500, 3694500; 473250, 3694500; 473250, 3694250; 473000, 3694250; 473000, 3693750; 472750, 3693750; 472750, 3693500; 472000, 3693500; 472000, 3693000; 471750, 3693000; 471750, 3692750; 471500, 3692750; 471500, 3692250; 471000, 3692250; 471000, 3692000; 470750, 3692000; 470750, 3692500; 471250, 3692500; 471250, 3693250;

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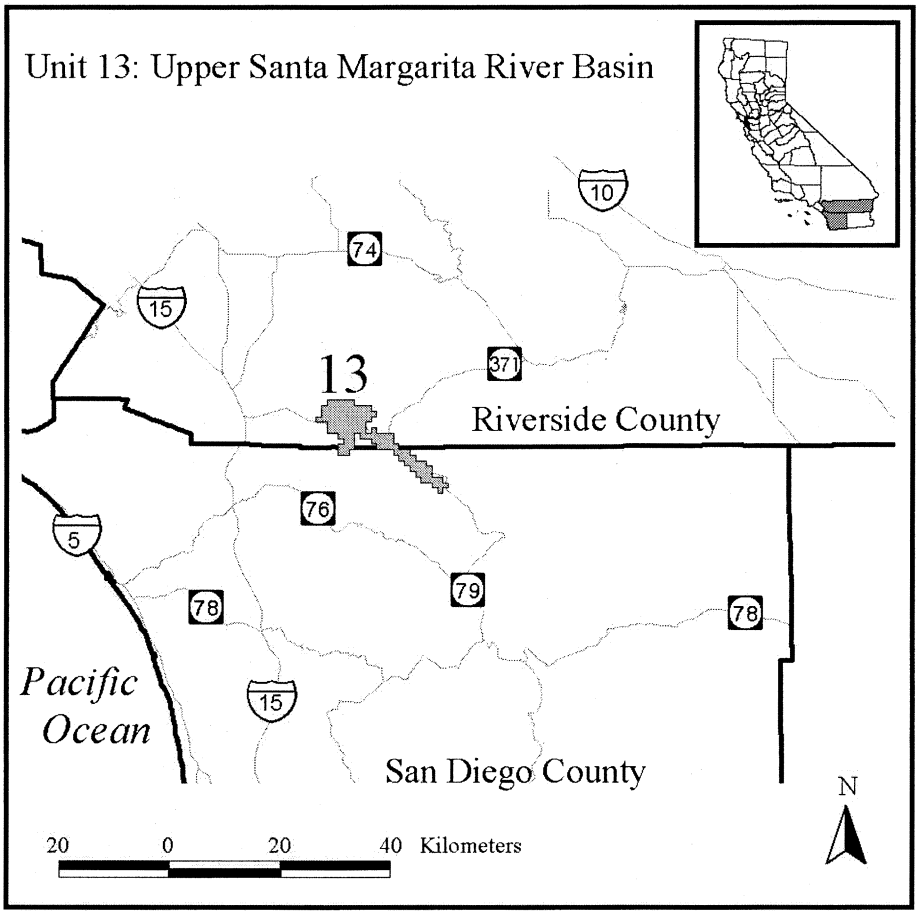

Map Unit 13: Upper Santa Margarita Basin, San Diego County, California. From USGS 1:24,000 quadrangle maps Sage, Vail Lake, Aquanga, and Palomar Observatory, the lands bounded by the following UTM coordinates (E, N): 504750, 3706750; 505500, 3706750; 505500, 3706500; 505750, 3706500; 505750, 3706750; 506000, 3706750; 506000, 3706250; 506250, 3706250; 506250, 3706000; 507000, 3706000; 507000, 3705750; 507250, 3705750; 507250, 3705500; 507750, 3705500; 507750, 3706000; 508500, 3706000; 508500, 3705500; 509000, 3705500; 509000, 3704500; 508000, 3704500; 508000, 3704250; 507250, 3704250; 507250, 3704000; 507000, 3704000; 507000, 3704500; 506750, 3704500; 506750, 3704750; 506000, 3704750; 506000, 3705000; 505500, 3705000; 505500, 3705250; 505250, 3705250; 505250, 3705000; 504750, 3705000; 504750, 3704750; 504500, 3704750; 504500, 3704000; 504750, 3704000; 504750, 3704250; 505000, 3704250; 505000, 3704000; 506250, 3704000; 506250, 3703750; 506750, 3703750; 506750, 3703000; 507000, 3703000; 507000, 3702750; 508250, 3702750; 508250, 3701750; 508750, 3701750; 508750, 3701250; 508500, 3701250; 508500, 3701000; 508750, 3701000; 508750, 3700750; 509500, 3700750; 509500, 3701000; 510000, 3701000; 510000, 3701250; 510500, 3701250; 510500, 3701000; 510750, 3701000; 510750, 3700750; 512750, 3700750; 512750, 3700500; 513750, 3700500; 513750, 3699250; 513500, 3699250; 513500, 3699000; 514250, 3699000; 514250, 3698750; 514500, 3698750; 514500, 3698250; 514750, 3698250; 514750, 3698000; 515000, 3698000; 515000, 3697750; 515250, 3697750; 515250, 3697500; 515750, 3697500; 515750, 3697250; 516000, 3697250; 516000, 3697500; 516500, 3697500; 516500, 3697250; 517000, 3697250; 517000, 3696250; 517250, 3696250; 517250, 3696000; 517500, 3696000; 517500, 3695750; 518000, 3695750; 518000, 3695250; 518250, 3695250; 518250, 3695500; 518750, 3695500; 518750, 3695250; 519750, 3695250; 519750, 3695000; 520000, 3695000; 520000, 3694500; 520500, 3694500; 520500, 3694000; 520750, 3694000; 520750, 3693500; 520500, 3693500; 520500, 3693000; 521000, 3693000; 521000, 3692750; 522750, 3692750; 522750, 3692000; 523000, 3692000; 523000, 3691750; 522750, 3691750; 522750, 3691000; 521500, 3691000; 521500, 3691750; 521250, 3691750; 521250, 3692000; 520750, 3692000; 520750, 3692250; 520000, 3692250; 520000, 3692750; 519750, 3692750; 519750, 3693000; 519250, 3693000; 519250, 3693250; 519000, 3693250; 519000, 3693500; 518750, 3693500; 518750, 3694000; 518500, 3694000; 518500, 3694250; 518000, 3694250; 518000, 3694500; 517750, 3694500; 517750, 3694750; 517500, 3694750; 517500, 3695000; 517250, 3695000; 517250, 3695250; 517000, 3695250; 517000, 3695750; 516750, 3695750; 516750, 3696000; 516000, 3696000; 516000, 3696500; 515500, 3696500; 515500, 3696750; 515250, 3696750; 515250, 3697000; 515000, 3697000;

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Map Unit 14 (see map of Units 11, 12, and 14): Lower and Middle San Luis Rey Basin, San Diego County, California. From USGS 1:24,000 quadrangle maps Pechanga, San Luis Rey, Morro Hill, Bonsall, Pala, Boucher Hill and Rodriguez Mtn., the lands bounded by the following UTM coordinates (E, N): 487250, 3689250; 487250, 3690250; 487500, 3690250; 487500, 3690500; 488000, 3690500; 488000, 3690000; 488250, 3690000; 488250, 3689500; 489000, 3689500; 489000, 3690000; 489250, 3690000; 489250, 3690500; 489500, 3690500; 489500, 3691000; 489750, 3691000; 489750, 3691250; 490250, 3691250; 490250, 3691500; 490500, 3691500; 490500, 3692000; 490750, 3692000; 490750, 3692500; 491250, 3692500; 491250, 3692250; 491500, 3692250; 491500, 3692500; 491750, 3692500; 491750, 3692250; 492250, 3692250; 492250, 3693000; 492000, 3693000; 492000, 3693250; 491750, 3693250; 491750, 3693750; 492000, 3693750; 492000, 3695250; 492250, 3695250; 492250, 3696000; 492500, 3696000; 492500, 3696750; 492750, 3696750; 492750, 3696500; 493000, 3696500; 493000, 3695750; 492750, 3695750; 492750, 3695000; 492500, 3695000; 492500, 3694250; 492250, 3694250; 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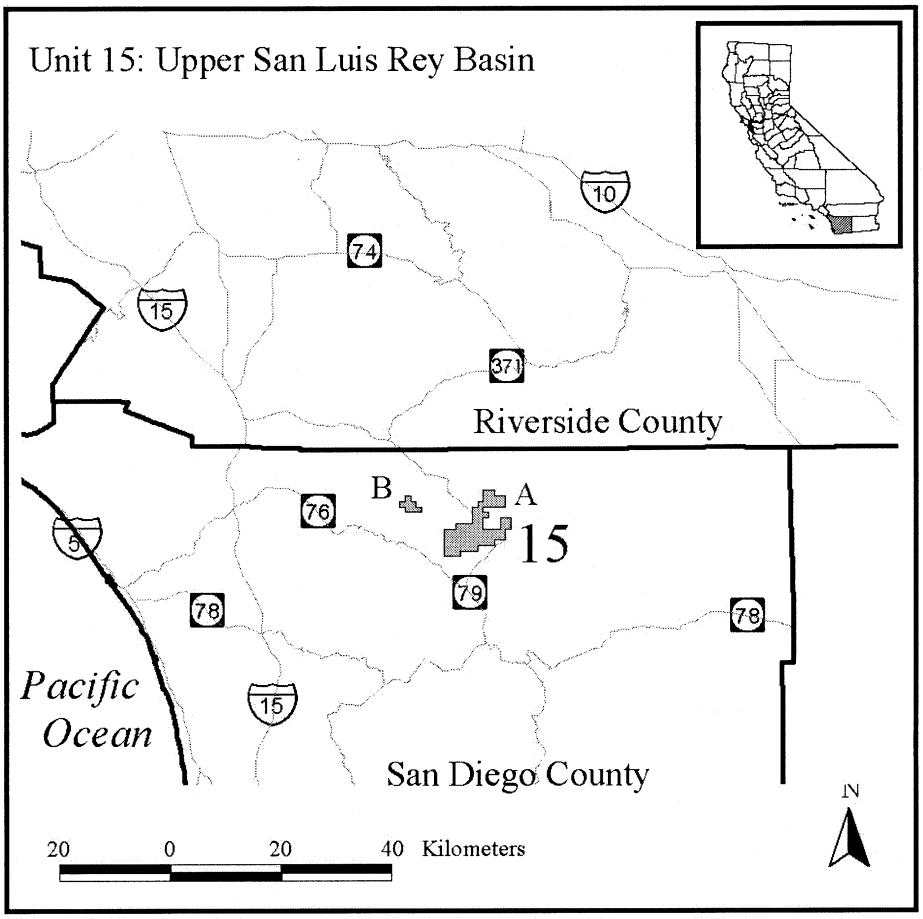
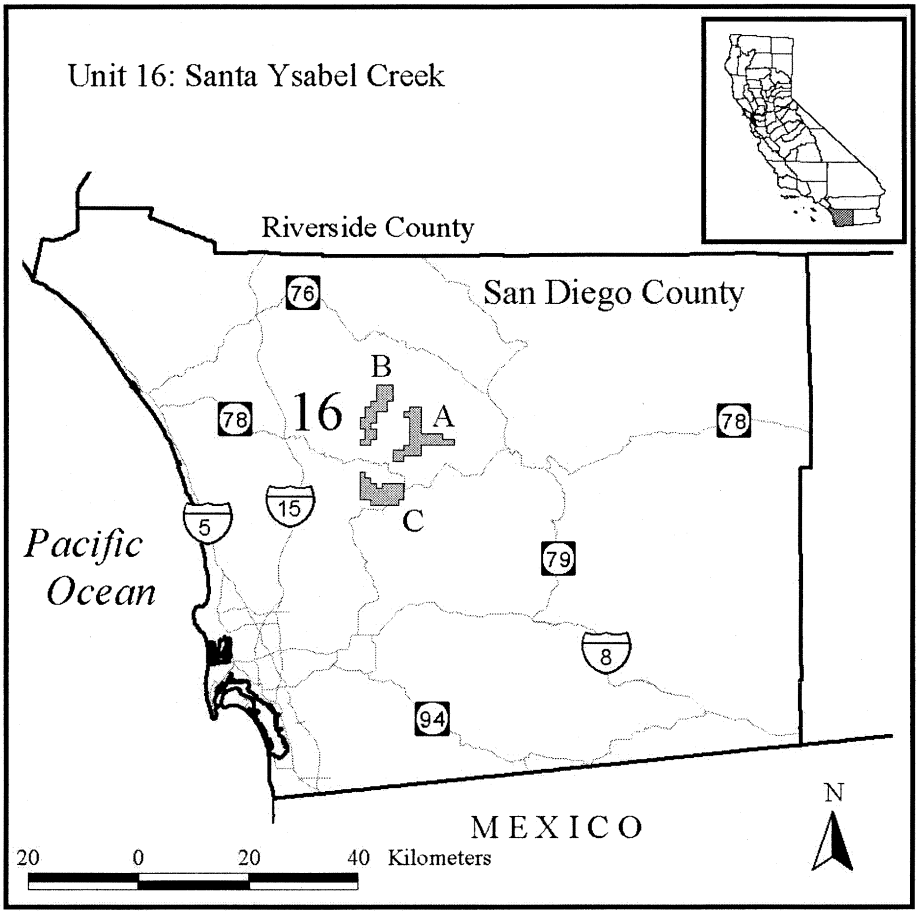


Map Unit 15: Upper San Luis Rey Basin, San Diego County, California

Subunit 15a: From USGS 1:24,000 quadrangle maps Palomar Observatory, and Warner Springs, the lands bounded by the following UTM coordinates (E, N): 531000, 3691000; 531500, 3691000; 531500, 3690750; 531750, 3690750; 531750, 3690000; 532000, 3690000; 532000, 3689500; 532750, 3689500; 532750, 3689750; 533500, 3689750; 533500, 3688750; 533000, 3688750; 533000, 3688250; 532000, 3688250; 532000, 3688750; 531750, 3688750; 531750, 3689000; 531500, 3689000; 531500, 3689250; 531000, 3689250; 531000, 3688500; 530500, 3688500; 530500, 3688750; 530250, 3688750; 530250, 3688500; 530000, 3688500; 530000, 3688000; 529750, 3688000; 529750, 3687750; 530000, 3687750; 530000, 3686750; 530250, 3686750; 530250, 3686250; 530000, 3686250; 530000, 3685250; 529750, 3685250; 529750, 3685000; 529250, 3685000; 529250, 3684750; 528750, 3684750; 528750, 3684500; 529250, 3684500; 529250, 3683500; 530500, 3683500; 530500, 3683750; 530750, 3683750; 530750, 3683500; 531000, 3683500; 531000, 3683250; 531750, 3683250; 531750, 3683500; 532250, 3683500; 532250, 3683750; 532500, 3683750; 532500, 3684000; 533000, 3684000; 533000, 3684250; 533500, 3684250; 533500, 3684500; 533750, 3684500; 533750, 3685250; 534000, 3685250; 534000, 3685500; 534750, 3685500; 534750, 3685000; 534250, 3685000; 534250, 3684500; 534000, 3684500; 534000, 3683750; 533750, 3683750; 533750, 3683500; 533250, 3683500; 533250, 3682750; 532500, 3682750; 532500, 3682250; 532250, 3682250; 532250, 3682000; 532000, 3682000; 532000, 3681750; 531750, 3681750; 531750, 3681500; 530750, 3681500; 530750, 3681250; 530250, 3681250; 530250, 3681500; 530000, 3681500; 530000, 3681750; 529500, 3681750; 529500, 3681500; 529000, 3681500; 529000, 3680500; 528500, 3680500; 528500, 3680750; 527750, 3680750; 527750, 3681000; 527500, 3681000; 527500, 3681250; 527000, 3681250; 527000, 3681500; 526500, 3681500; 526500, 3680750; 526250, 3680750; 526250, 3680250; 526000, 3680250; 526000, 3679750; 523000, 3679750; 523000, 3680250; 523250, 3680250; 523250, 3681250; 523500, 3681250; 523500, 3681500; 523250, 3681500; 523250, 3682250; 523000, 3682250; 523000, 3683250; 523250, 3683250; 523250, 3683500; 523750, 3683500; 523750, 3683250; 524000, 3683250; 524000, 3683500; 524250, 3683500; 524250, 3683750; 524500, 3683750; 524500, 3684000; 525250, 3684000; 525250, 3684250; 526250, 3684250; 526250, 3684500; 526500, 3684500; 526500, 3684750; 527250, 3684750; 527250, 3685000; 528000, 3685000; 528000, 3685250; 528250, 3685250; 528250, 3686250; 528000, 3686250; 528000, 3686750; 528500, 3686750; 528500, 3687500; 528750, 3687500; 528750, 3687750; 529000, 3687750; 529000, 3688250; 529250, 3688250; 529250, 3688500; 529500, 3688500; 529500, 3688750; 529750, 3688750; 529750, 3689000; 530000, 3689000; 530000, 3689250; 530250, 3689250; 530250, 3689750; 530500, 3689750; 530500, 3690000; 530750, 3690000; 530750, 3690250; 531000, 3690250; 531000, 3691000.

Subunit 15b: From USGS 1:24,000 quadrangle map Palomar Observatory, the lands bounded by the following UTM coordinates (E, N): 516750, 3689250; 517000, 3689250; 517000, 3688750; 517250, 3688750; 517250, 3688000; 518000, 3688000; 518000, 3687750; 518250, 3687750; 518250, 3687000; 517500, 3687000; 517500, 3687250; 517000, 3687250; 517000, 3687500; 516750, 3687500; 516750, 3687750; 516500, 3687750; 516500, 3688000; 516000, 3688000; 516000, 3688250; 515750, 3688250; 515750, 3688750; 516500, 3688750; 516500, 3689000; 516750, 3689000; 516750, 3689250.



Map Unit 16: Santa Ysabel Creek, San Diego County, California

Subunit 16a: From USGS 1:24,000 quadrangle maps Mesa Grande, Ramona and San Pasqual, the lands bounded by the following UTM coordinates (E, N): 513750, 3671000; 514250, 3671000; 514250, 3669500; 514000, 3669500; 514000, 3669250; 514250, 3669250; 514250, 3668500; 514750, 3668500; 514750, 3667750; 514500, 3667750; 514500, 3667500; 514750, 3667500; 514750, 3667250; 514500, 3667250; 514500, 3666500; 514250, 3666500; 514250, 3665750; 514000, 3665750; 514000, 3665500; 514500, 3665500; 514500, 3665000; 514250, 3665000; 514250, 3664750; 514500, 3664750; 514500, 3664500; 514750, 3664500; 514750, 3664750; 515000, 3664750; 515000, 3665000; 515250, 3665000; 515250, 3665250; 515500, 3665250; 515500, 3665000; 515750, 3665000; 515750, 3665250; 517000, 3665250; 517000, 3665000; 517750, 3665000; 517750, 3665250; 518250, 3665250; 518250, 3665500; 518750, 3665500; 518750, 3665250; 519000, 3665250; 519000, 3665000; 520000, 3665000; 520000, 3664750; 520250, 3664750; 520250, 3664000; 519750, 3664000; 519750, 3664500; 519250, 3664500; 519250, 3664750; 519000, 3664750; 519000, 3664500; 517500, 3664500; 517500, 3664250; 517250, 3664250; 517250, 3664000; 517000, 3664000; 517000, 3664250; 516750, 3664250; 516750, 3664750; 515500, 3664750; 515500, 3664500; 515250, 3664500; 515250, 3664250; 515000, 3664250; 515000, 3664000; 514000, 3664000; 514000, 3663250; 514250, 3663250; 514250, 3662750; 513750, 3662750; 513750, 3662500; 513500, 3662500; 513500, 3662250; 513250, 3662250; 513250, 3662500; 513000, 3662500; 513000, 3662750; 512500, 3662750; 512500, 3662250; 511750, 3662250; 511750, 3662000; 511500, 3662000; 511500, 3661750; 511250, 3661750; 511250, 3661500; 511000, 3661500; 511000, 3661250; 510250, 3661250; 510250, 3661000; 510000, 3661000; 510000, 3661750; 510750, 3661750; 510750, 3662000; 511000, 3662000; 511000, 3662250; 511250, 3662250; 511250, 3662500; 511500, 3662500; 511500, 3662750; 512000, 3662750; 512000, 3663000; 512250, 3663000; 512250, 3663250; 513250, 3663250; 513250, 3666500; 513500, 3666500; 513500, 3666750; 513250, 3666750; 513250, 3667000; 513500, 3667000; 513500, 3667250; 513250, 3667250; 513250, 3667500; 513500, 3667500; 513500, 3668250; 513250, 3668250; 513250, 3668500; 513000, 3668500; 513000, 3669250; 512750, 3669250; 512750, 3669500; 512500, 3669500; 512500, 3669750; 513000, 3669750; 513000, 3670500; 513500, 3670500; 513500, 3670750; 513750, 3670750; 513750, 3671000.

Subunit 16b: From USGS 1:24,000 quadrangle maps Rodriguez Mtn. and San Pasqual, the lands bounded by the following UTM coordinates (E, N): 508500, 3674750; 508750, 3674750; 508750, 3674500; 509250, 3674500; 509250, 3674750; 509500, 3674750; 509500, 3674000; 509250, 3674000; 509250, 3673250; 509750, 3673250; 509750, 3672750; 509500, 3672750; 509500, 3672500; 509250, 3672500; 509250, 3672250; 508750, 3672250; 508750, 3672000; 508000, 3672000; 508000, 3671750; 508500, 3671750; 508500, 3671500; 508750, 3671500; 508750, 3671250; 508500, 3671250; 508500, 3670750; 507750, 3670750; 507750, 3670250; 507250, 3670250; 507250, 3670000; 507000, 3670000; 507000, 3669250; 506750, 3669250; 506750, 3668750; 506250, 3668750; 506250, 3668500; 506000, 3668500; 506000, 3668250; 505500, 3668250; 505500, 3667500; 505750, 3667500; 505750, 3667000; 506000, 3667000; 506000, 3666500; 506250, 3666500; 506250, 3666250; 506500, 3666250; 506500, 3665750; 506250, 3665750; 506250, 3665500; 506000, 3665500; 506000, 3664750; 505750, 3664750; 505750, 3664500; 505250, 3664500; 505250, 3664250; 505000, 3664250; 505000, 3664750; 505250, 3664750; 505250, 3665750; 505500, 3665750; 505500, 3666500; 505250, 3666500; 505250, 3667250; 505000, 3667250; 505000, 3667750; 504750, 3667750; 504750, 3668250; 505000, 3668250; 505000, 3669000; 505500, 3669000; 505500, 3669500; 506000, 3669500; 506000, 3670000; 505750, 3670000; 505750, 3670750; 506250, 3670750; 506250, 3671250; 506500, 3671250; 506500, 3671500; 506750, 3671500; 506750, 3671750; 507000, 3671750; 507000, 3672750; 507500, 3672750; 507500, 3673750; 507750, 3673750; 507750, 3674250; 508000, 3674250; 508000, 3674500; 508500, 3674500; 508500, 3674750.

Subunit 16c: From USGS 1:24,000 quadrangle map San Pasqual, the lands bounded by the following UTM coordinates (E, N): 504000, 3658250; 505000, 3658250; 505000, 3657750; 505500, 3657750; 505500, 3657250; 505750, 3657250; 505750, 3657000; 506000, 3657000; 506000, 3656250; 506500, 3656250; 506500, 3656000; 506750, 3656000; 506750, 3655500; 507500, 3655500; 507500,

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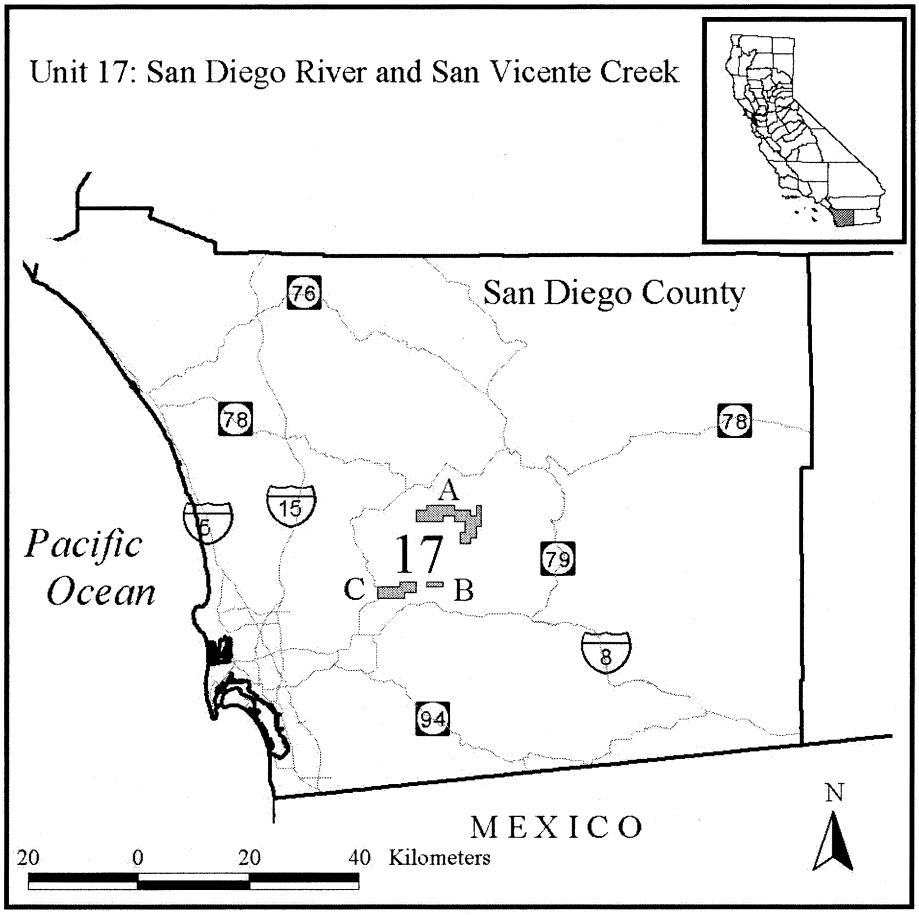


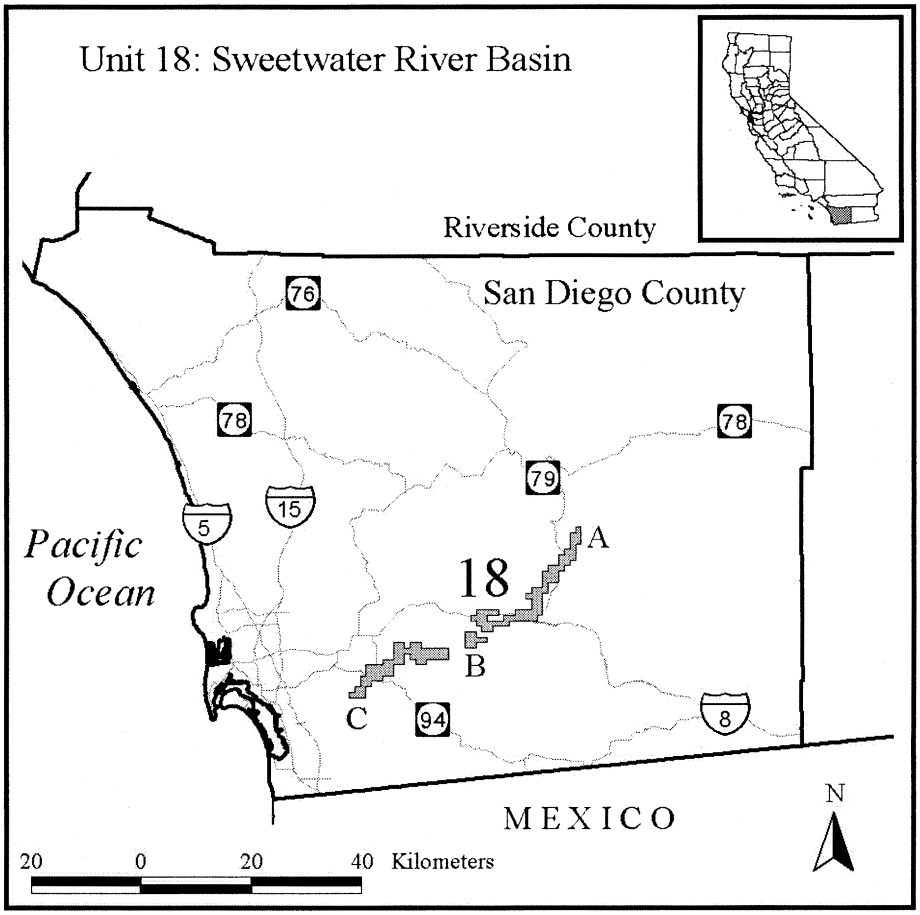
Map Unit 17: San Diego River and San Vicente Creek, San Diego County, California

Subunit 17a: From USGS 1:24,000 quadrangle maps El Cajon Mtn., Tule Springs and Santa Ysabel, the lands bounded by the following UTM coordinates (E, N): 525500, 3653000; 525750, 3653000; 525750, 3652750; 526000, 3652750; 526000, 3652000; 525750, 3652000; 525750, 3651250; 525500, 3651250; 525500, 3650750; 525250, 3650750; 525250, 3650250; 525500, 3650250; 525500, 3650500; 526000, 3650500; 526000, 3650000; 525500, 3650000; 525500, 3649750; 524750, 3649750; 524750, 3649500; 524500, 3649500; 524500, 3649250; 524250, 3649250; 524250, 3649000; 524750, 3649000; 524750, 3648750; 525000, 3648750; 525000, 3648250; 524750, 3648250; 524750, 3647500; 524500, 3647500; 524500, 3647250; 524000, 3647250; 524000, 3647000; 523750, 3647000; 523750, 3646500; 523250, 3646500; 523250, 3646250; 522750, 3646250; 522750, 3646500; 522250, 3646500; 522250, 3647000; 522500, 3647000; 522500, 3647250; 523500, 3647250; 523500, 3647750; 523750, 3647750; 523750, 3648000; 524250, 3648000; 524250, 3648500; 524000, 3648500; 524000, 3648750; 523750, 3648750; 523750, 3649500; 524000, 3649500; 524000, 3650250; 524250, 3650250; 524250, 3650500; 524500, 3650500; 524500, 3650750; 524750, 3650750; 524750, 3651000; 525000, 3651000; 525000, 3651500; 525250, 3651500; 525250, 3652000; 525500, 3652000; 525500, 3653000.

Subunit 17b: From USGS 1:24,000 quadrangle map El Cajon Mtn., the lands bounded by the following UTM coordinates (E, N): 516500, 3638750; 516750, 3638750; 516750, 3638500; 517000, 3638500; 517000, 3638750; 518000, 3638750; 518000, 3638000; 516500, 3638000; 516500, 3638750.

Subunit 17c: From USGS 1:24,000 quadrangle maps El Cajon, San Vicente Reservoir, and El Cajon Mtn., the lands bounded by the following UTM coordinates (E, N): 513000, 3639000; 513500, 3639000; 513500, 3638500; 513250, 3638500; 513250, 3637750; 513000, 3637750; 513000, 3637500; 512500, 3637500; 512500, 3637250; 511500, 3637250; 511500, 3637000; 511250, 3637000; 511250, 3636750; 511000, 3636750; 511000, 3636500; 510500, 3636500; 510500, 3636250; 510000, 3636250; 510000, 3636000; 509750, 3636000; 509750, 3636750; 508750, 3636750; 508750, 3636500; 508000, 3636500; 508000, 3636750; 507750, 3636750; 507750, 3637250; 508000, 3637250; 508000, 3637500; 508500, 3637500; 508500, 3637250; 509750, 3637250; 509750, 3637000; 510000, 3637000; 510000, 3637250; 510500, 3637250; 510500, 3637500; 511000, 3637500; 511000, 3637750; 511250, 3637750; 511250, 3638000; 511500, 3638000; 511500, 3638250; 512000, 3638250; 512000, 3638500; 513000, 3638500; 513000, 3639000.

Subunit 17d: From USGS 1:24,000 quadrangle maps El Cajon Mtn., and Ramona, the lands bounded by the following UTM coordinates (E, N): 516000, 3652000; 517750, 3652000; 517750, 3651750; 518000, 3651750; 518000, 3650750; 517500, 3650750; 517500, 3651250; 517000, 3651250; 517000, 3651000; 516250, 3651000; 516250, 3650750; 515500, 3650750; 515500, 3650500; 515000, 3650500; 515000, 3650250; 515250, 3650250; 515250, 3650000; 514750, 3650000; 514750, 3650500; 514500, 3650500; 514500, 3650750; 514000, 3650750; 514000, 3651000; 514250, 3651000; 514250, 3651250; 514500, 3651250; 514500, 3651500; 516000, 3651500; 516000, 3652000.



Map Unit 18: Sweetwater River, San Diego County, California

Subunit 18a: From USGS 1:24,000 quadrangle maps Viejas Mountain, Descanso, and Cuyamaca Peak, the lands bounded by the following UTM coordinates (E, N): 536250, 3636500; 536250, 3636250; 536500, 3636250; 536500, 3636000; 536750, 3636000; 536750, 3635500; 537000, 3635500; 537000, 3634750; 536500, 3634750; 536500, 3634500; 536750, 3634500; 536750, 3634250; 536500, 3634250; 536500, 3634000; 536750, 3634000; 536750, 3633500; 536500, 3633500; 536500, 3633250; 536250, 3633250; 536250, 3633000; 535750, 3633000; 535750, 3632500; 535500, 3632500; 535500, 3632250; 535000, 3632250; 535000, 3632750; 534250, 3632750; 534250, 3633000; 533750, 3633000; 533750, 3632500; 533500, 3632500; 533500, 3632250; 532500, 3632250; 532500, 3632500; 531750, 3632500; 531750, 3632250; 531500, 3632250; 531500, 3632000; 531000, 3632000; 531000, 3631750; 530500, 3631750; 530500, 3631500; 530000, 3631500; 530000, 3631250; 529750, 3631250; 529750, 3631000; 528500, 3631000; 528500, 3631250; 527750, 3631250; 527750, 3631000; 527500, 3631000; 527500, 3630750; 527250, 3630750; 527250, 3630250; 526750, 3630250; 526750, 3630000; 526250, 3630000; 526250, 3630500; 526500, 3630500; 526500, 3630750; 526750, 3630750; 526750, 3631000; 527000, 3631000; 527000, 3631250; 527500, 3631250; 527500, 3631500; 527750, 3631500; 527750, 3631750; 528000, 3631750; 528000, 3631500; 528750, 3631500; 528750, 3631750; 529000, 3631750; 529000, 3631500; 529250, 3631500; 529250, 3631750; 530000, 3631750; 530000, 3632000; 530250, 3632000; 530250, 3632250; 530500, 3632250; 530500, 3632750; 531500, 3632750; 531500, 3633000; 532250, 3633000; 532250, 3633250; 532500, 3633250; 532500, 3633000; 532750, 3633000; 532750, 3632750; 533250, 3632750; 533250, 3633250; 533500, 3633250; 533500, 3633500; 534500, 3633500; 534500, 3633750; 535250, 3633750; 535250, 3633250; 535500, 3633250; 535500, 3633500; 536000, 3633500; 536000, 3634250; 535500, 3634250; 535500, 3634750; 535250, 3634750; 535250, 3635000; 535750, 3635000; 535750, 3635250; 535500, 3635250; 535500, 3635750; 535000, 3635750; 535000, 3636000; 534750, 3636000; 534750, 3636750; 535250, 3636750; 535250, 3637000; 535000, 3637000; 535000, 3637250; 535250, 3637250; 535250, 3637750; 535750, 3637750; 535750, 3637500; 536250, 3637500; 536250, 3637250; 536750, 3637250; 536750, 3637750; 537000, 3637750; 537000, 3638500; 537250, 3638500; 537250, 3639000; 537500, 3639000; 537500, 3639750; 537750, 3639750; 537750, 3640250; 538000, 3640250; 538000, 3640500; 538500, 3640500; 538500, 3640250; 538750, 3640250; 538750, 3640750; 538500, 3640750; 538500, 3641250; 539500, 3641250; 539500, 3641500; 539750, 3641500; 539750, 3641750; 540000, 3641750; 540000, 3642250; 540250, 3642250; 540250, 3642500; 540500, 3642500; 540500, 3642750; 540750, 3642750; 540750, 3643250; 541000, 3643250; 541000, 3643500; 541250, 3643500; 541250, 3643750; 541500, 3643750; 541500, 3645000; 542000, 3645000; 542000, 3645500; 542250, 3645500; 542250, 3645750; 542500, 3645750; 542500, 3646250; 542750, 3646250; 542750, 3647250; 543000, 3647250; 543000, 3648500; 543250, 3648500; 543250, 3648750; 543500, 3648750; 543500, 3648500; 543750, 3648500; 543750, 3648250; 543500, 3648250; 543500, 3647000; 543250, 3647000; 543250, 3646000; 543000, 3646000; 543000, 3645250; 542750, 3645250; 542750, 3644750; 542500, 3644750; 542500, 3644000; 542750, 3644000; 542750, 3643500; 542000, 3643500; 542000, 3643000; 541500, 3643000; 541500, 3642250; 541250, 3642250; 541250, 3642000; 541000, 3642000; 541000, 3641500; 540500, 3641500; 540500, 3641250; 540250, 3641250; 540250, 3641000; 540000, 3641000; 540000, 3640750; 539500, 3640750; 539500, 3639750; 538500, 3639750; 538500, 3639500; 538000, 3639500; 538000, 3638750; 537750, 3638750; 537750, 3637750; 537250, 3637750; 537250, 3637250; 537000, 3637250; 537000, 3636750; 536750, 3636750; 536750, 3636500; 536250, 3636500; excluding land bounded by 536250, 3636500; 536250, 3636750; 536000, 3636750; 536000, 3637000; 535750, 3637000; 535750, 3636500; 536250, 3636500.

Subunit 18b: From USGS 1:24,000 quadrangle maps Viejas Mountain, and Alpine, the lands bounded by the following UTM coordinates (E, N): 523500, 3629750; 524250, 3629750; 524250, 3629500; 524000, 3629500; 524000, 3628750; 524500, 3628750; 524500, 3628500; 525000, 3628500; 525000, 3628750; 525500, 3628750; 525500, 3628500; 526250, 3628500; 526250, 3628750; 526750, 3628750; 526750, 3628250; 526500, 3628250; 526500, 3628000; 525250, 3628000; 525250,

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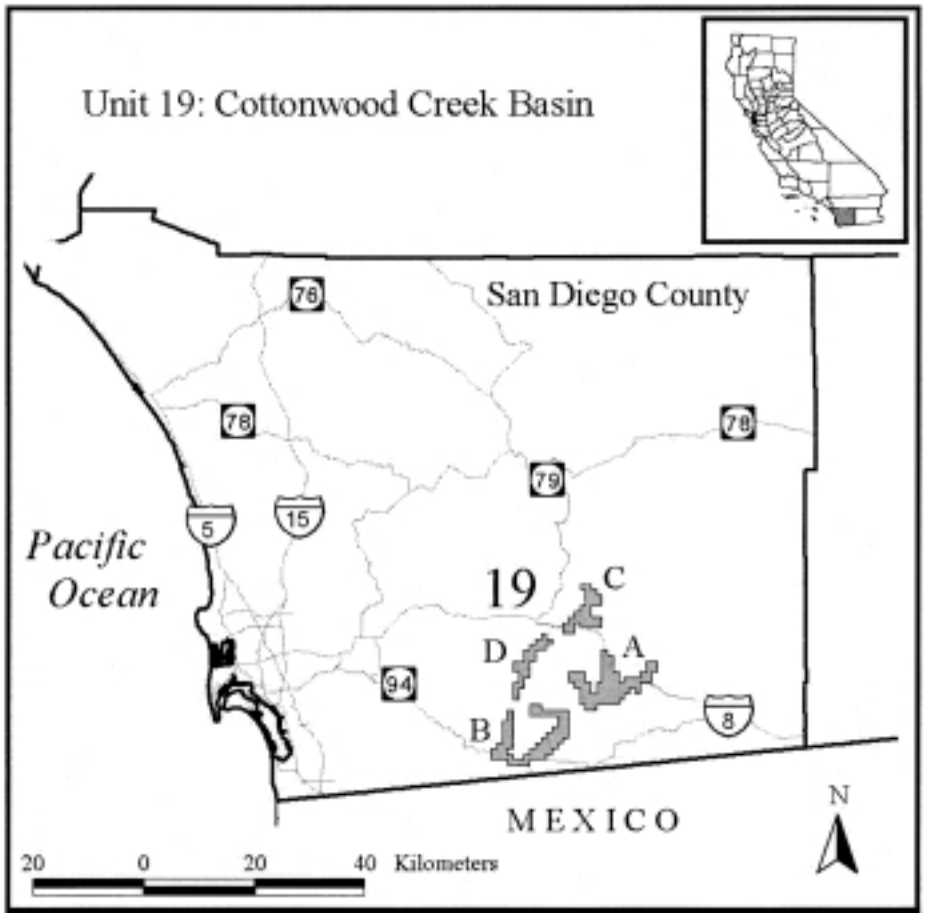
Subunit 18c: From USGS 1:24,000 quadrangle maps Alpine, El Cajon, and Jamul Mts., the lands bounded by the following UTM coordinates (E, N): 514750, 3626500; 515250, 3626500; 515250, 3626000; 515000, 3626000; 515000, 3625750; 514750, 3625750; 514750, 3625500; 515500, 3625500; 515500, 3625750; 515750, 3625750; 515750, 3626000; 516000, 3626000; 516000, 3626250; 516750, 3626250; 516750, 3626000; 517750, 3626000; 517750, 3626250; 519250, 3626250; 519250, 3626750; 519750, 3626750; 519750, 3626000; 519500, 3626000; 519500, 3625750; 519250, 3625750; 519250, 3625500; 518500, 3625500; 518500, 3625750; 518000, 3625750; 518000, 3625500; 516500, 3625500; 516500, 3625750; 516250, 3625750; 516250, 3625250; 516000, 3625250; 516000, 3625000; 515750, 3625000; 515750, 3624750; 514750, 3624750; 514750, 3624500; 514250, 3624500; 514250, 3624750; 514000, 3624750; 514000, 3625500; 514250, 3625500; 514250, 3625750; 513750, 3625750; 513750, 3626250; 512750, 3626250; 512750, 3626000; 512000, 3626000; 512000, 3626250; 511500, 3626250; 511500, 3626000; 511750, 3626000; 511750, 3625250; 511500, 3625250; 511500, 3624750; 511250, 3624750; 511250, 3624500; 510750, 3624500; 510750, 3624250; 510250, 3624250; 510250, 3624000; 510000, 3624000; 510000, 3623750; 509750, 3623750; 509750, 3623500; 509500, 3623500; 509500, 3623250; 509750, 3623250; 509750, 3623000; 509000, 3623000; 509000, 3622250; 508500, 3622250; 508500, 3622000; 507750, 3622000; 507750, 3621750; 507250, 3621750; 507250, 3622000; 506500, 3622000; 506500, 3621750; 506250, 3621750; 506250, 3621000; 505750, 3621000; 505750, 3620500; 505500, 3620500; 505500, 3620250; 505250, 3620250; 505250, 3620000; 505000, 3620000; 505000, 3619750; 504750, 3619750; 504750, 3619500; 504500, 3619500; 504500, 3619250; 504250, 3619250; 504250, 3618250; 504000, 3618250; 504000, 3618000; 503000, 3618000; 503000, 3619250; 503250, 3619250; 503250, 3619000; 503500, 3619000; 503500, 3618750; 503750, 3618750; 503750, 3619500; 504000, 3619500; 504000, 3619750; 504250, 3619750; 504250, 3620000; 504500, 3620000; 504500, 3620500; 504750, 3620500; 504750, 3621250; 505000, 3621250; 505000, 3621750; 505250, 3621750; 505250, 3622000; 505000, 3622000; 505000, 3622500; 505250, 3622500; 505250, 3623000; 507000, 3623000; 507000, 3622750; 507750, 3622750; 507750, 3623000; 508000, 3623000; 508000, 3623250; 508250, 3623250; 508250, 3623500; 508500, 3623500; 508500, 3624000; 508750, 3624000; 508750, 3624250; 509250, 3624250; 509250, 3624500; 509500, 3624500; 509500, 3624750; 510250, 3624750; 510250, 3625000; 510500, 3625000; 510500, 3625250; 511000, 3625250; 511000, 3625500; 510500, 3625500; 510500, 3626000; 510250, 3626000; 510250, 3627250; 510500, 3627250; 510500, 3627500; 511500, 3627500; 511500, 3627250; 512000, 3627250; 512000, 3627000; 512250, 3627000; 512250, 3626750; 512500, 3626750; 512500, 3627000; 513250, 3627000; 513250, 3627250; 514500, 3627250; 514500, 3627750; 515000, 3627750; 515000, 3627000; 514750, 3627000; 514750, 3626500; excluding land bounded by 514750, 3626500; 514250, 3626500; 514250, 3626250; 514750, 3626250; 514750, 3626500.

Subunit 18d: From USGS 1:24,000 quadrangle map Viejas Mountain, the lands bounded by the following UTM coordinates (E, N): 527000, 3634000; 527500, 3634000; 527500, 3633250; 527250, 3633250; 527250, 3633000; 526750, 3633000; 526750, 3632750; 526500, 3632750; 526500, 3632500; 526250, 3632500; 526250, 3632000; 525750, 3632000; 525750, 3631750; 525500, 3631750; 525500, 3632000; 524750, 3632000; 524750, 3632750; 525750, 3632750; 525750, 3633250; 526250, 3633250; 526250, 3633500; 526750, 3633500; 526750, 3633750; 527000, 3633750; 527000, 3634000.



Map Unit 19: Cottonwood-Tijuana Basin, San Diego County, California

Subunit 19a: From USGS 1:24,000 quadrangle maps Morena Reservoir, Cameron Corners and Mount Laguna, the lands bounded by the following UTM coordinates (E,N): 547000, 3627000; 547500, 3627000; 547500, 3626750; 547750, 3626750; 547750, 3626250; 548000, 3626250; 548000, 3625750; 548250, 3625750; 548250, 3625500; 548500, 3625500; 548500, 3624750; 548750, 3624750; 548750, 3623500; 549000, 3623500; 549000, 3622750; 550000, 3622750; 550000, 3622500; 549750, 3622500; 549750, 3621750; 549500, 3621750; 549500, 3621500; 549250, 3621500; 549250, 3621250; 549000, 3621250; 549000, 3621500; 548750, 3621500; 548750, 3621000; 548500, 3621000; 548500, 3620750; 548000, 3620750; 548000, 3620250; 548250, 3620250; 548250, 3618500; 549000, 3618500; 549000, 3620250; 549750, 3620250; 549750, 3620500; 550500, 3620500; 550500, 3620250; 551000, 3620250; 551000, 3619500; 550500, 3619500; 550500, 3619250; 550250, 3619250; 550250, 3618500; 550000, 3618500; 550000, 3618250; 549750, 3618250; 549750, 3617250; 548750, 3617250; 548750, 3617750; 548250, 3617750; 548250, 3617500; 547750, 3617500; 547750, 3618000; 547500, 3618000; 547500, 3618750; 547250, 3618750; 547250, 3619250; 547000, 3619250; 547000, 3617750; 546250, 3617750; 546250, 3617500; 546000, 3617500; 546000, 3617000; 545750, 3617000; 545750, 3616500; 545500, 3616500; 545500, 3616250; 544500, 3616250; 544500, 3616750; 544000, 3616750; 544000, 3617250; 543750, 3617250; 543750, 3617500; 543500, 3617500; 543500, 3619250; 543750, 3619250; 543750, 3619500; 543500, 3619500; 543500, 3620000; 543250, 3620000; 543250, 3620250; 543000, 3620250; 543000, 3620500; 542750, 3620500; 542750, 3620750; 542500, 3620750; 542500, 3621000; 542250, 3621000; 542250, 3621250; 541750, 3621250; 541750, 3621500; 541500, 3621500; 541500, 3622000; 541750, 3622000; 541750, 3622250; 542000, 3622250; 542000, 3622000; 542500, 3622000; 542500, 3621750; 542750, 3621750; 542750, 3622500; 543000, 3622500; 543000, 3622250; 543250, 3622250; 543250, 3622000; 543500, 3622000; 543500, 3621500; 543750, 3621500; 543750, 3621250; 544000, 3621250; 544000, 3621000; 544250, 3621000; 544250, 3620750; 544500, 3620750; 544500, 3620250; 544750, 3620250; 544750, 3620000; 544500, 3620000; 544500, 3619750; 544750, 3619750; 544750, 3619500; 545000, 3619500; 545000, 3618750; 545750, 3618750; 545750, 3619000; 546250, 3619000; 546250, 3619500; 546500, 3619500; 546500, 3620000; 546750, 3620000; 546750, 3620250; 547000, 3620250; 547000, 3621750; 547250, 3621750; 547250, 3622500; 547000, 3622500; 547000, 3624500; 547250, 3624500; 547250, 3626250; 547000, 3626250; 547000, 3627000; excluding land bounded by 544750, 3618500; 544750, 3618000; 545000, 3618000; 545000, 3618500; 544750, 3618500.

Subunit 19b: From USGS 1:24,000 quadrangle maps Barrett Lake, Tecate, Potrero and Morena Reservoir, the lands bounded by the following UTM coordinates (E,N): 530750, 3615750; 531000, 3615750; 531000, 3614500; 530750, 3614500; 530750, 3614000; 530500, 3614000; 530500, 3613500; 530250, 3613500; 530250, 3613000; 530500, 3613000; 530500, 3612000; 530250, 3612000; 530250, 3611250; 529750, 3611250; 529750, 3611000; 530000, 3611000; 530000, 3610250; 530250, 3610250; 530250, 3609750; 530000, 3609750; 530000, 3609500; 529750, 3609500; 529750, 3609250; 529250, 3609250; 529250, 3608750; 529000, 3608750; 529000, 3607750; 529500, 3607750; 529500, 3607500; 530250, 3607500; 530250, 3607250; 530500, 3607250; 530500, 3607000; 530250, 3607000; 530250, 3606750; 530750, 3606750; 530750, 3606500; 531750, 3606500; 531750, 3606750; 532500, 3606750; 532500, 3607000; 533250, 3607000; 533250, 3607500; 534250, 3607500; 534250, 3608000; 534500, 3608000; 534500, 3608250; 535000, 3608250; 535000, 3608750; 535500, 3608750; 535500, 3609750; 536000, 3609750; 536000, 3610000; 536250, 3610000; 536250, 3610250; 536500, 3610250; 536500, 3610500; 537000, 3610500; 537000, 3610750; 537500, 3610750; 537500, 3611250; 537750, 3611250; 537750, 3611500; 538250, 3611500; 538250, 3611750; 538500, 3611750; 538500, 3612500; 539000, 3612500; 539000, 3612750; 539250, 3612750; 539250, 3613500; 539500, 3613500; 539500, 3613750; 540000, 3613750; 540000, 3613250; 540250, 3613250; 540250, 3613000; 540500, 3613000; 540500, 3612750; 540750, 3612750; 540750, 3612250; 540250, 3612250; 540250, 3612000; 540000, 3612000; 540000, 3611750; 540250, 3611750; 540250, 3611500; 540000, 3611500; 540000, 3611000; 539750, 3611000; 539750, 3610250; 538500, 3610250; 538500, 3610000; 538250, 3610000; 538250,

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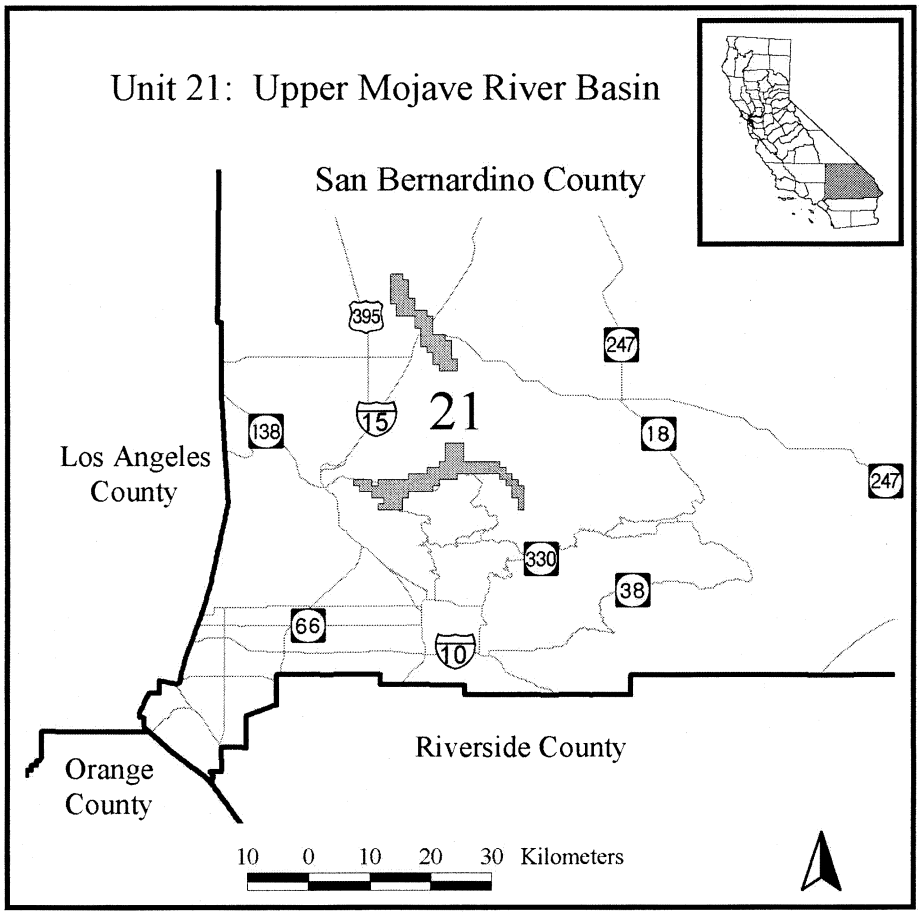
Subunit 19c: From USGS 1:24,000 quadrangle maps Descanso, and Cuyamaca Peak, the lands bounded by the following UTM coordinates (E, N): 544750, 3633000; 545250, 3633000; 545250, 3632250; 546250, 3632250; 546250, 3632500; 546750, 3632500; 546750, 3632000; 546500, 3632000; 546500, 3631750; 546250, 3631750; 546250, 3631500; 546000, 3631500; 546000, 3631250; 545750, 3631250; 545750, 3631000; 545000, 3631000; 545000, 3631250; 544750, 3631250; 544750, 3631000; 543750, 3631000; 543750, 3631500; 543500, 3631500; 543500, 3632750; 543250, 3632750; 543250, 3633000; 543000, 3633000; 543000, 3632750; 542750, 3632750; 542750, 3632500; 542250, 3632500; 542250, 3632000; 542000, 3632000; 542000, 3631750; 541500, 3631750; 541500, 3631250; 541250, 3631250; 541250, 3630750; 541000, 3630750; 541000, 3630500; 540500, 3630500; 540500, 3631250; 541000, 3631250; 541000, 3632000; 541500, 3632000; 541500, 3632750; 542000, 3632750; 542000, 3633000; 542500, 3633000; 542500, 3633250; 542750, 3633250; 542750, 3633750; 543250, 3633750; 543250, 3633500; 543500, 3633500; 543500, 3634250; 543750, 3634250; 543750, 3634500; 544250, 3634500; 544250, 3635250; 544500, 3635250; 544500, 3636000; 544750, 3636000; 544750, 3636500; 545000, 3636500; 545000, 3637000; 544750, 3637000; 544750, 3637250; 544500, 3637250; 544500, 3637750; 544250, 3637750; 544250, 3638500; 543750, 3638500; 543750, 3639000; 544250, 3639000; 544250, 3638750; 544750, 3638750; 544750, 3638250; 545000, 3638250; 545000, 3637750; 545250, 3637750; 545250, 3637500; 545500, 3637500; 545500, 3636750; 545750, 3636750; 545750, 3636500; 546250, 3636500; 546250, 3636250; 546500, 3636250; 546500, 3636000; 546250, 3636000; 546250, 3635750; 546000, 3635750; 546000, 3635500; 545750, 3635500; 545750, 3635750; 545250, 3635750; 545250, 3635250; 545000, 3635250; 545000, 3634250; 544750, 3634250; 544750, 3633000; excluding land bounded by 544750, 3633000; 544500, 3633000; 544500, 3632750; 544750, 3632750; 544750, 3633000.

Subunit 19d: From USGS 1:24,000 quadrangle maps Barrett Lake, Viejas Mtn. and Descanso, the lands bounded by the following UTM coordinates (E, N): 536750, 3629250; 537000, 3629250; 537000, 3629000; 537250, 3629000; 537250, 3628500; 536750, 3628500; 536750, 3628250; 536500, 3628250; 536500, 3628000; 536250, 3628000; 536250, 3627750; 536000, 3627750; 536000, 3627500; 535500, 3627500; 535500, 3627000; 535000, 3627000; 535000, 3626750; 534750, 3626750; 534750, 3626250; 534500, 3626250; 534500, 3626000; 534250, 3626000; 534250, 3625750; 534000, 3625750; 534000, 3625250; 533750, 3625250; 533750, 3625000; 534000, 3625000; 534000, 3624750; 533750, 3624750; 533750, 3624250; 533250, 3624250; 533250, 3622500; 533000, 3622500; 533000, 3621500; 532750, 3621500; 532750, 3620750; 532500, 3620750; 532500, 3620250; 532250, 3620250; 532250, 3620000; 531750, 3620000; 531750, 3619250; 531500, 3619250; 531500, 3618750; 531000, 3618750; 531000, 3619500; 531250, 3619500; 531250, 3620500; 531500, 3620500; 531500, 3620750; 531750, 3620750; 531750, 3620500; 532000, 3620500; 532000, 3621000; 532250, 3621000; 532250, 3621500; 532500, 3621500; 532500, 3621750; 532250, 3621750; 532250, 3622500; 532500, 3622500; 532500, 3623750; 532250, 3623750; 532250, 3623500; 531500, 3623500; 531500, 3623750; 531250, 3623750; 531250, 3624000; 531500, 3624000; 531500, 3624250; 531750, 3624250; 531750, 3624750; 532000, 3624750; 532000, 3625000; 532500, 3625000; 532500, 3624000; 532750, 3624000; 532750, 3624500; 533000, 3624500; 533000, 3624750; 533250, 3624750; 533250, 3625500; 533500, 3625500; 533500, 3626250; 533750, 3626250; 533750, 3626500; 534000, 3626500; 534000, 3626750; 534250, 3626750; 534250, 3627250; 534500, 3627250; 534500, 3627500; 534750, 3627500; 534750, 3627750; 535000, 3627750; 535000, 3628000; 535750, 3628000; 535750, 3628250; 536000, 3628250; 536000, 3628500; 536250, 3628500; 536250, 3629000; 536750, 3629000; 536750, 3629250.

Map Unit 20 (see map of Units 6, 7, and 20): Little Rock Creek, Los Angeles County, California. From USGS 1:24,000 quadrangle maps Juniper Hills and Pacifico Mtn., the lands bounded by the following UTM coordinates (E, N): 406250, 3814750; 406500, 3814750; 406500, 3814250; 406750, 3814250; 406750, 3813250; 407000, 3813250; 407000, 3812250; 407250, 3812250; 407250, 3812000; 407500, 3812000; 407500, 3811500; 408000, 3811500; 408000, 3811250; 408750, 3811250; 408750, 3811000; 409000, 3811000; 409000, 3810750; 409250, 3810750; 409250, 3810500; 409500, 3810500; 409500, 3810000; 410000, 3810000; 410000, 3809750; 410250, 3809750; 410250, 3809250; 410500, 3809250; 410500, 3809000; 411000, 3809000; 411000, 3808250; 411250, 3808250; 411250, 3808000; 411500, 3808000; 411500, 3807500; 411000, 3807500; 411000, 3807750; 410750, 3807750; 410750, 3808250; 410500, 3808250; 410500, 3808500; 410250, 3808500; 410250, 3809000; 410000, 3809000; 410000, 3809250; 409750, 3809250; 409750, 3809500; 409500, 3809500; 409500, 3809750; 409000, 3809750; 409000, 3810250; 408750, 3810250; 408750, 3810500; 408000, 3810500; 408000, 3810750; 407750, 3810750; 407750, 3811000; 407250, 3811000; 407250, 3811250; 407000, 3811250; 407000, 3811500; 406750, 3811500; 406750, 3811750; 406500, 3811750; 406500, 3813000; 406250, 3813000; 406250, 3813750; 406000, 3813750; 406000, 3813500; 405750, 3813500; 405750, 3813250; 405500, 3813250; 405500, 3813000; 405000, 3813000; 405000, 3812750; 404750, 3812750; 404750, 3813250; 405000, 3813250; 405000, 3813500; 405250, 3813500; 405250, 3813750; 405500, 3813750; 405500, 3814000; 405750, 3814000; 405750, 3814250; 406000, 3814250; 406000, 3814500; 406250, 3814500; 406250, 3814750.



Map Unit 21: Mojave River, San Bernardino County, California

Subunit 21a: From USGS 1:24,000 quadrangle maps Cajon, Silverwood Lake, Lake Arrowhead and Butler Peak, the lands bounded by the following UTM coordinates (E, N): 476750, 3803500; 478750, 3803500; 478750, 3802000; 478500, 3802000; 478500, 3801000; 478750, 3801000; 478750, 3800750; 479000, 3800750; 479000, 3800500; 479250, 3800500; 479250, 3800250; 480750, 3800250; 480750, 3800000; 481000, 3800000; 481000, 3800250; 482000, 3800250; 482000, 3800500; 482500, 3800500; 482500, 3800250; 484250, 3800250; 484250, 3800000; 484750, 3800000; 484750, 3799750; 485000, 3799750; 485000, 3799500; 485500, 3799500; 485500, 3798500; 486750, 3798500; 486750, 3798250; 487000, 3798250; 487000, 3797500; 487500, 3797500; 487500, 3796250; 488250, 3796250; 488250, 3795750; 488500, 3795750; 488500, 3795500; 488750, 3795500; 488750, 3795250; 489000, 3795250; 489000, 3795000; 488750, 3795000; 488750, 3794250; 488500, 3794250; 488500, 3793750; 488250, 3793750; 488250, 3794000; 488000, 3794000; 488000, 3794500; 488250, 3794500; 488250, 3795000; 488500, 3795000; 488500, 3795250; 488000, 3795250; 488000, 3795750; 487500, 3795750; 487500, 3796000; 487000, 3796000; 487000, 3796500; 487250, 3796500; 487250, 3796750; 487000, 3796750; 487000, 3797000; 486750, 3797000; 486750, 3797250; 486500, 3797250; 486500, 3797750; 486000, 3797750; 486000, 3798000; 485250, 3798000; 485250, 3798500; 485000, 3798500; 485000, 3799250; 484500, 3799250; 484500, 3799500; 483250, 3799500; 483250, 3799750; 482750, 3799750; 482750, 3799500; 482500, 3799500; 482500, 3799750; 481250, 3799750; 481250, 3799500; 480500, 3799500; 480500, 3799750; 479750, 3799750; 479750, 3799500; 479000, 3799500; 479000, 3799750; 478750, 3799750; 478750, 3799500; 477750, 3799500; 477750, 3799000; 477500, 3799000; 477500, 3798750; 476750, 3798750; 476750, 3799000; 475750, 3799000; 475750, 3798750; 475250, 3798750; 475250, 3798500; 475000, 3798500; 475000, 3798000; 474250, 3798000; 474250, 3797500; 473750, 3797500; 473750, 3797250; 473500, 3797250; 473500, 3796750; 473250, 3796750; 473250, 3796250; 473000, 3796250; 473000, 3796000; 472000, 3796000; 472000, 3796250; 471000, 3796250; 471000, 3796000; 470000, 3796000; 470000, 3795750; 468500, 3795750; 468500, 3796000; 468250, 3796000; 468250, 3796250; 468000, 3796250; 468000, 3796000; 467750, 3796000; 467750, 3796250; 466500, 3796250; 466500, 3796000; 466000, 3796000; 466000, 3795750; 465500, 3795750; 465500, 3795500; 465000, 3795500; 465000, 3795750; 464500, 3795750; 464500, 3796000; 464250, 3796000; 464250, 3796250; 463750, 3796250; 463750, 3796500; 462500, 3796500; 462500, 3796750; 462250, 3796750; 462250, 3797000; 462000, 3797000; 462000, 3797250; 461500, 3797250; 461500, 3797750; 462500, 3797750; 462500, 3797500; 462750, 3797500; 462750, 3797250; 463250, 3797250; 463250, 3797000; 464000, 3797000; 464000, 3796750; 464750, 3796750; 464750, 3796500; 466000, 3796500; 466000, 3796750; 465750, 3796750; 465750, 3797500; 467750, 3797500; 467750, 3797250; 468250, 3797250; 468250, 3797000; 468500, 3797000; 468500, 3797250; 468750, 3797250; 468750, 3797000; 469000, 3797000; 469000, 3796750; 469750, 3796750; 469750, 3797000; 469500, 3797000; 469500, 3797500; 470000, 3797500; 470000, 3798000; 470250, 3798000; 470250, 3798500; 470500, 3798500; 470500, 3798250; 470750, 3798250; 470750, 3798500; 471000, 3798500; 471000, 3798750; 471750, 3798750; 471750, 3799000; 473500, 3799000; 473500, 3799250; 473750, 3799250; 473750, 3799500; 474250, 3799500; 474250, 3799750; 475000, 3799750; 475000, 3800000; 475500, 3800000; 475500, 3800250; 476250, 3800250; 476250, 3800000; 476500, 3800000; 476500, 3800250; 477000, 3800250; 477000, 3800500; 477250, 3800500; 477250, 3800750; 477000, 3800750; 477000, 3801000; 476750, 3801000; 476750, 3802500; 477000, 3802500; 477000, 3802750; 476750, 3802750; 476750, 3803500.

Subunit 21b: From USGS 1:24,000 quadrangle maps Victorville, Hesperia, and Helendale, the lands bounded by the following UTM coordinates (E, N): 467250, 3831750; 468750, 3831750; 468750, 3829500; 469000, 3829500; 469000, 3829000; 469250, 3829000; 469250, 3828500; 469500, 3828500; 469500, 3828000; 469750, 3828000; 469750, 3826250; 470000, 3826250; 470000, 3826000; 470500, 3826000; 470500, 3825750; 471000, 3825750; 471000, 3825500; 471250, 3825500; 471250, 3825250; 472000, 3825250; 472000, 3825000; 472250, 3825000; 472250, 3824750; 472750, 3824750; 472750, 3824500; 473000, 3824500; 473000, 3824250; 473250, 3824250;

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Subunit 21c: From USGS 1:24,000 quadrangle maps Cajon, and Silverwood Lake, the lands bounded by the following UTM coordinates (E, N): 466000, 3794250; 468250, 3794250; 468250, 3793500; 467500, 3793500; 467500, 3793250; 467000, 3793250; 467000, 3793500; 466750, 3793500; 466750, 3793750; 466500, 3793750; 466500, 3793500; 465750, 3793500; 465750, 3793250; 465250, 3793250; 465250, 3793500; 465000, 3793500; 465000, 3793750; 465500, 3793750; 465500, 3794000; 466000, 3794000; 466000, 3794250.

Map Unit 22 (see map of Units 9 and 22): Whitewater River, Riverside County, California. From USGS 1:24,000 quadrangle maps Catclaw Flat, and White Water, the lands bounded by the following UTM coordinates (E, N): 530250, 3764000; 531000, 3764000; 531000, 3763250; 531250, 3763250; 531250, 3762250; 531500, 3762250; 531500, 3762000; 531750, 3762000; 531750, 3761250; 532000, 3761250; 532000, 3760750; 532250, 3760750; 532250, 3760500; 532500, 3760500; 532500, 3759750; 532750, 3759750; 532750, 3758750; 533000, 3758750; 533000, 3757750; 533250, 3757750; 533250, 3757500; 533500, 3757500; 533500, 3756250; 533750, 3756250; 533750, 3754750; 533500, 3754750; 533500, 3755000; 533000, 3755000; 533000, 3755250; 532750, 3755250; 532750, 3757250; 532500, 3757250; 532500, 3757500; 532250, 3757500; 532250, 3758000; 532000, 3758000; 532000, 3759000; 531750, 3759000; 531750, 3760000; 531500, 3760000; 531500, 3760750; 531000, 3760750; 531000, 3761000; 530750, 3761000; 530750, 3761500; 530500, 3761500; 530500, 3762000; 530250, 3762000; 530250, 3763250; 530000, 3763250; 530000, 3763750; 530250, 3763750; 530250, 3764000.

* * * * *

Dated: January 19, 2001.

Kenneth L. Smith,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 01–2253 Filed 2–6–01; 8:45 am]

BILLING CODE 4310–55–P