



Federal Register

**Thursday,
June 8, 2000**

Part II

Department of the Interior

Fish and Wildlife Service

50 CFR Part 17

**Endangered and Threatened Wildlife and
Plants; Proposed Designation of Critical
Habitat for the Arroyo Southwestern
Toad; Proposed Rule**

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****RIN 1018—AG15****Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Arroyo Southwestern Toad**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose designation of critical habitat for the arroyo southwestern toad (*Bufo microscaphus californicus*) pursuant to the Endangered Species Act of 1973, as amended (Act). A total of approximately 193,600 hectares (478,400 acres) fall within the boundaries of the proposed critical habitat designation. Proposed critical habitat is located in Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties, California. If this proposed rule is made final, section 7 of the Act would prohibit destruction or adverse modification of critical habitat by any activity funded, authorized, or carried out by any Federal agency.

Section 4 of the Act requires us to consider economic and other relevant impacts of specifying any particular area as critical habitat. We solicit data and comments from the public on all aspects of this proposal, including data on the economic and other impacts of designation and our approaches for handling habitat conservation plans (HCPs). We may revise this proposal to incorporate or address new information received during the comment period.

DATES: We will accept comments from all interested parties until August 7, 2000. Two public hearings have been scheduled for June 27, 2000, and June 29, 2000, see locations below.

ADDRESSES:

1. Comments: If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods.

a. You may submit written comments and information to the Field Supervisor, U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, 2394 Portola Road, Suite B, Ventura, California 93003.

b. You may hand-deliver written comments to our Ventura Office, at the address given above.

c. You may send comments by electronic mail (e-mail) to

fw1artoch@fws.gov. Please submit these comments as an ASCII file and avoid the use of special characters and any form of encryption. Please also include "Attn: [RIN number]" and your name and return address in your e-mail message. If you do not receive a confirmation from the system that we have received your e-mail message, contact us directly by calling our Ventura Office at phone number 805/644-1766.

2. Public hearings: Two public hearings are scheduled. Both public hearings will be held from 1:00 p.m. to 3:00 p.m. and 6:00 p.m. to 8:00 p.m. Public hearing dates and locations are:

a. Tuesday, June 27, 2000, at the Hyatt Valencia, 24500 Town Center Drive, Valencia, California.

b. Thursday, June 29, 2000, at the Temecula Embassy Suites, 29345 Rancho California Road, Temecula, California.

3. Review of data: Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at the Ventura Fish and Wildlife Office, 2394 Portola Road, Suite B, Ventura, California, or at the Carlsbad Fish and Wildlife Office, 2730 Loker Avenue West, Carlsbad, California (telephone 760/431-9440).

FOR FURTHER INFORMATION CONTACT:

Field Supervisor, Ventura Fish and Wildlife Office, at the above address (telephone 805/644-1766; facsimile 805/644-3958). For information about Los Angeles and San Bernardino Counties, and Riverside, Orange, and San Diego Counties, contact the 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 contains additional details and is available from the addresses above. The arroyo southwestern toad (*Bufo microscaphus californicus*) is one of three members of the southwestern toad (*B. microscaphus*) complex, in the family of true toads, Bufonidae. 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 microscaphus 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. 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 about 75 percent of the previously occupied habitat in California (Jennings and Hayes 1994).

Because relatively little was known about this animal, and it 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 conducted 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 much 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). 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 (Service 1999; Griffin *et al.* 1999; Ramirez 2000; D.C. Holland, unpubl. data).

Habitat Characteristics and Ecological Considerations

Arroyo toads have specialized requirements for breeding habitats. Specifically, they 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, nonvegetated sandy stream channels and terraces. Throughout their range, arroyo toads are found in foothill canyons and intermountain valleys where medium- to large-sized streams and rivers are bordered closely by low hills, riverbed gradients are low, and the surface stream flows frequently pool or are intermittent for at least a few months of the year. South of the Santa Clara River, Los Angeles County, they also occur on a few desert slopes and on the coastal plain.

For breeding, adult arroyo toads use open sites such as overflow pools, old flood channels, and pools on streams of first to sixth order. Rivers and streams are classified by order. The order refers to how many branches or tributaries a stream has. The smallest unbranched tributary in a watershed is considered an order of one. A channel formed by the confluence of two such tributaries is

designated an order of two. In general, the higher the order number, the larger the watershed, and the greater the channel dimensions. 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 sandy terraces, which are used by subadults and adults for foraging and burrowing, may be sparsely to heavily 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 the nonbreeding season include alluvial scrub, coastal sage scrub, chaparral (shrubby plants adapted to dry summers and moist winters), grassland, and oak woodland. 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 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, cobble, or mud generally located away from vegetation in the shallow margins of the pool. High water flows will wash the eggs out of the 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 the eggs.

Embryos 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. 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, as they cannot escape (Service 1999).

Juvenile arroyo toads remain in the saturated substrate at the edges of breeding pools for 1 to 3 weeks. They are active during the day and often 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 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 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 willows and mulefat. Most toads will move into willows or other vegetation as they grow, and as the stream dries naturally. Removal of native vegetation, in addition to increasing erosion into the streams, can leave small toads at risk of dehydration and death.

Male arroyo toads usually reach adulthood in 2 years. Females become sexually mature in 2 to 3 years, when they attain lengths greater than 54 mm (2.1 in.). However, males may reach adulthood at 1 year if conditions are favorable. We have little data on lifespan; based on age-size distributions, many individuals live only about 5 years. Longevity may vary with local conditions. Recapture rates of marked individuals from one breeding season to the next range from 15 to 50 percent.

Little is known of the seasonal and annual movements or physiological ecology of adults, but data suggest that many 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 may be over 8 km (5 mi) (U.S. Forest Service (Forest Service) 1999). Amount of rainfall, availability of surface water, width of streamside terraces and floodplains, vegetative cover, and topography can all influence the habitat available to arroyo toads and the distances they will move from the streambed (Griffin *et al.* 1999; Ramirez 2000). In San Diego County, Griffin *et al.* (1999) found that the female adult arroyo toads they radiotracked 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 males moved an average maximum of 73 m (240 ft) from the streams. Males along a coastal stream with a broad floodplain moved an average maximum of 92 m

(302 ft) from the streams, while those 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) in one desert slope stream with a very narrow floodplain, and 145 m (476 ft) in another desert slope system with a broader floodplain. Extended movement away from streams may be facilitated by microclimates wherein lower temperatures and high humidity on foggy days in the spring and summer create moist substrates in upland habitats where adult arroyo toads can survive (Service 1999). We do not have enough data to accurately characterize 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. Arroyo toad breeding habitat is created and maintained by the fluctuating hydrological, geological, and ecological processes operating in riparian ecosystems and the adjacent uplands. These 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. 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 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, the Center for Biological Diversity, and Christians Caring for Creation filed a lawsuit in the Northern District of California against the U.S. Fish and Wildlife Service and Bruce Babbitt, Secretary of the Department of the Interior (Secretary), for failure to designate critical habitat for seven species: the Alameda whipsnake (*Masticophis lateralis euryxanthus*), the Zayante band-winged grasshopper (*Trimerotropis infantilis*), the Morro shoulderband snail (*Helminthoglypta walkeriana*), the arroyo southwestern toad (*Bufo microscaphus californicus*), the San Bernardino kangaroo rat (*Dipodomys merriami parvus*), the spectacled eider (*Somateria fischeri*), and the Steller's eider (*Polysticta stelleri*) (*Southwest Center for Biological Diversity v. U.S. Fish and Wildlife*, CIV 99-1003 MMC). On November 5, 1999, William Alsup, U.S. District Judge, dismissed the plaintiffs' lawsuit pursuant to a settlement agreement entered into by the parties. Publication of this proposed rule is consistent with that settlement agreement.

Absent the settlement agreement, the processing of this proposed rule does not conform with our current Listing Priority Guidance published in the **Federal Register** on October 22, 1999 (64 FR 57114). The guidance clarifies the order in which we will process rulemakings. Highest priority is processing emergency listing rules for any species determined to face a significant and imminent risk to its well-being (Priority 1). Second priority (Priority 2) is processing final determinations on proposed additions to the lists of endangered and threatened wildlife and plants. Third priority is processing new proposals to add species to the lists. The processing of administrative petition findings (petitions filed under section 4 of the Act) is the fourth priority. We are processing this proposed rule in compliance with the above-mentioned settlement agreement.

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 consideration or protection and; (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon 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 species or a threatened species to the point at which listing under the Act is no longer necessary.

Section 4(b)(2) of the Act requires that we base critical habitat proposals upon the best scientific and commercial data available, after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. We may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in extinction of the species (section 4(b)(2) of the Act).

Designation of critical habitat can help focus conservation activities for a listed species by identifying areas that contain the physical and biological features that are essential for conservation of that species. Designation of critical habitat alerts the public as well as land-managing agencies to the importance of these areas.

Critical habitat also identifies areas that may require special management considerations or protection, and may provide protection to areas where significant threats to the species have been identified. Critical habitat receives protection from destruction or adverse modification through required consultation under section 7 of the Act with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 also requires conferences on Federal actions that are likely to result in the adverse modification or destruction of proposed critical habitat. Aside from the protection that may be provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat.

Section 7(a)(2) of the Act requires Federal agencies to consult with us to ensure that any action they authorize,

fund, or carry out is not likely to jeopardize the continued existence of a threatened or endangered species, or result in the destruction or adverse modification of critical habitat. In 50 CFR 402.02, "jeopardize the continued existence" (of a species) is defined as engaging in an activity likely to result in an appreciable reduction in the likelihood of survival and recovery of a listed species. "Destruction or adverse modification" (of critical habitat) is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat for the survival and recovery of the listed species for which critical habitat was designated. Thus, the definitions of "jeopardy" to the species and "adverse modification" of critical habitat are nearly identical.

Designating critical habitat does not, in itself, lead to recovery of a listed species. Designation does not create a management plan, establish numerical population goals, prescribe specific management actions (inside or outside of critical habitat), or directly affect areas not designated as critical habitat. Specific management recommendations for areas designated as critical habitat are most appropriately addressed in recovery, conservation and management plans, and through section 7 consultations and section 10 permits.

This critical habitat designation identifies specific units that are essential to the conservation of a listed species and that may require special management considerations or protection. All of the proposed critical habitat areas are considered essential to the conservation of the arroyo toad as described in the final recovery plan. The proposed critical habitat units contain a mosaic of habitats that provide breeding, foraging, sheltering, and living spaces for arroyo toads, as well as migration and dispersal corridors. Each critical habitat unit currently may not contain all of the primary constituent elements, but could develop them in the future. Some of the habitat in the proposed units could be improved through habitat rehabilitation or improved management (e.g., removal of nonnative species or restoration of more natural streamflow regimes).

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. This 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; habitat evaluation models developed for and data submitted by the Los Padres, Angeles, San Bernardino, and Cleveland National Forests; 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 habitat capability model developed by Barto (1999) for San Diego County.

The areas we are proposing to designate as critical habitat currently provide some or all of those habitat components essential for the primary biological needs of the arroyo toad as defined by the primary constituent elements. Additionally, 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.

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. If specific protections were available and enforceable in Mexico, for this species the portion of the range in Mexico alone, in isolation, would not be adequate to ensure the long-term conservation of this species.

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.

Due to the complex life history and dispersal capabilities of the toads, and the dynamic nature of the environment in which they are found, all of the primary constituent elements may not be found in or adjacent to every stream reach and associated upland habitats proposed for critical habitat. It is important to provide for dispersal and migration corridors, as well as allowing room for expansion of the populations. Habitat rehabilitation efforts, as well as changes in current management activities, may be necessary in some areas in order to attain an optimal distribution of the primary constituent elements in each critical habitat unit.

The primary constituent elements of critical habitat for the arroyo toad include rivers and streams with 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 areas that contain suitable habitat; and undisturbed habitats. Primary constituent elements, or components thereof, are found in all of the areas proposed for critical habitat.

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 may be true of appropriate upland habitat. Some areas are suitable only for migration and dispersal between breeding and foraging habitats or to additional breeding pools that will accommodate expanding populations. The areas within the proposed units contain some or all of the primary constituent elements. Areas within the proposed critical habitat that may not have toads present at a given point in time may be capable of supporting the constituent elements because habitat conditions can change rapidly in response to flows and other factors, such as the development and shifting of sand and gravel bars, and creation and disappearance of pools. Terrace and upland habitat characteristics and suitability are dynamic and may change as a result of rainfall, earthquakes, fires, and other natural events.

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 that should be maintained or rehabilitated in order to achieve arroyo toad recovery are generally reflected in this proposed critical habitat designation. The designation of critical habitat is one of several tools available for implementing the recovery strategy for the toad.

The recovery strategy for the arroyo toad focuses on providing sufficient breeding and upland habitat to maintain self-sustaining populations of arroyo toads throughout the historic range of

the species in California, and minimizing or eliminating impacts and threats to arroyo toad populations. Self-sustaining populations are those documented as having successful recruitment (i.e., inclusion of newly matured individuals into the breeding population) equal to 20 percent or more of the average number of breeding adults in 7 of 10 years of average to above average rainfall amounts with normal rainfall patterns. The level of recruitment is based on the currently available information, which indicates that arroyo toads may live for only about 5 years, and that losses of overwintering adults can be high. Having 20 percent or greater recruitment in 7 of 10 good rainfall years should provide a sufficient population base to maintain the population through adverse conditions such as during drought years or high flow years, or following fires.

Self-sustaining populations should require little or no direct human assistance such as captive breeding or rearing, or translocation of arroyo toads between sites. Protection and management of areas on a watershed basis is the most effective means of achieving such distributions of habitat. Areas should be large enough to allow a dynamic spatial and temporal distribution of suitable breeding, foraging, dispersal, and migration habitats in the event of random natural or human-related events such as fires, floods, and droughts.

Arroyo toads survive in areas that are ecologically and geographically distinct from one another, and the threats in those areas differ. To better address the recovery needs of the arroyo toad in each of these areas, we identified three recovery units, the Northern, Southern, and Desert, that reflect the ecological and geographic separations, and cover the known and historic range of the species. We are proposing some critical habitat in each of the recovery units to identify for the public and land managers those distinct ecological environments in which the toad is found that are essential to its recovery, and to enable land managers to make management decisions that may help stabilize and expand the populations in these units to preserve the species' full genetic diversity. 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

TABLE 1. RECOVERY UNITS FOR THE ARROYO TOAD.—Continued

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 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 Recovery Unit:
Little Rock Creek, Los Angeles County
Upper Mojave River Basin (Mojave, Deep, Horsethief, Little Horsethief), San Bernardino County
Whitewater River Basin, Riverside County.

In an effort to map areas essential to the conservation of the species, we used data on known arroyo toad locations, focusing specifically on those areas identified in the recovery plan as essential for the stabilization and reclassification of the species. We then used spatial data on stream gradient to better determine the extent of suitable breeding habitat in these areas. Stream segments containing suitable stream gradient 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.

GIS-based modeling was then used to identify upland areas within a 25-m (80-ft) elevation range of each essential stream reach and no more than 1.5 km

(0.9 mi) away from the stream. This technique was effective at capturing alluvial areas associated with river valleys without extending appreciably up the adjacent hillsides. Thus, the width of the upland component of critical habitat varies based on topography. The habitat is wide in broad alluvial valleys and narrow in places where streams run through constricted canyons or between surrounding hills.

To provide a legal description of the proposed critical habitat units, a 1-km² (0.62 mi²) Universal Transverse Mercator (UTM) grid was overlaid on each essential stream reach and its surrounding upland habitat area (as defined by the GIS-based modeling described above). The proposed critical habitat units represent all 1-km² (0.62 mi²) UTM grid squares that contain portions of an essential stream segment or upland habitat area. Defining critical habitat unit boundaries at a 1-km² (0.62 mi²) scale resolution does result in the inclusion of some areas that potentially lack the primary constituent elements necessary for arroyo toads.

To identify proposed critical habitat units, we first examined those lands under Federal jurisdiction. Those lands include areas managed by the Department of Defense (DOD), the U.S. Forest Service (USFS), the Bureau of Land Management (BLM), the Army Corps of Engineers (Army Corps), and the U.S. Fish and Wildlife Service (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. Non-Federal 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 receive special management and protection under the terms of the HCP/IA and are therefore not being proposed for inclusion in critical habitat as discussed in section 3(5) of the Act.

We considered, and are proposing, portions of the Pala, Rincon, Capitan Grande, Sycuan, Viejas, La Posta, and Soboba Indian Reservations because we believe that riparian and adjoining upland areas on Tribal lands may be essential to the continued existence of arroyo toads. However, the short

amount of time allowed under the settlement agreement approved by the court to propose critical habitat precluded us from adequately coordinating with the respective Tribes. Subsequent to this proposal, we will coordinate with the Tribes before making a final determination as to whether any Tribal lands should be included as critical habitat for the arroyo toad. We will consider whether these Tribal lands require special management considerations or protection; we may also exclude some or all of these lands from critical habitat upon a determination that the benefits of excluding them outweighs the benefits of designating these areas as critical habitat, as provided under section 4(b)(2) of the Act. This consultation will take place under the auspices of Secretarial Order 3206 and the Presidential Memorandum of April 29, 1994, which require us to coordinate with federally recognized Tribes on a Government-to-Government basis.

We did not map critical habitat in sufficient detail to exclude all developed areas such as towns, housing developments, and other lands unlikely to contain primary constituent elements essential for arroyo toad conservation. Areas of existing features and structures within the unit boundaries, such as buildings, roads, aqueducts, railroads, airports, and paved areas will not contain one or more of the primary constituent elements. Federal actions limited to these areas, therefore, would not trigger a section 7 consultation, unless they affect the species and/or the primary constituent elements in adjacent critical habitat.

Proposed Critical Habitat Designation

The approximate area encompassing proposed critical habitat by county and land ownership is shown in Table 2. Proposed critical habitat includes arroyo toad habitat throughout the species' range in the United States (*i.e.*, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Riverside, San Bernardino, Orange, and San Diego Counties, California). Lands proposed are under private, local agency, county, State, Tribal, and Federal ownership. Lands proposed as critical habitat have been divided into 22 Critical Habitat Units. Brief descriptions of each unit, and reasons for proposing them as critical habitat, 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).

Jennings and Hayes (1994) estimate that arroyo toads have lost up to 75 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 urban development, intensive agriculture, and reservoirs.

Arroyo toads now occur as isolated subpopulations on the middle and upper reaches of tributaries of many large rivers. They probably occurred on these creeks downstream to the confluences with the mainstems. If so, and if arroyo toads used the mainstems for breeding or dispersal, all of the arroyo toads in a single basin would have constituted a single metapopulation. The isolation of subpopulations on the tributaries can lead to inbreeding and genetic instability, making them more susceptible to losses from disease or other problems. Losses of genetic variability associated with inbreeding can make it more difficult for a population to survive when environmental conditions change, as associated with long-term climatic changes or fluctuations (*e.g.*, ice ages, global warming). When populations in isolated reaches are greatly reduced or lost due to natural or human-related impacts, including catastrophic fires or floods, the loss of habitat continuity and the greater distances between subpopulations will make it more difficult for arroyo toads to recolonize those fragmented habitats (see *e.g.*, Barto 1999).

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 Federal, and management needs are being addressed through the section 7 consultation process and the development of management plans and conservation strategies.

Unit 1: San Antonio River, Monterey County

Unit 1 consists of the San Antonio River and adjacent uplands, from the junction of Forest Creek downstream to San Antonio Reservoir. The unit encompasses approximately 9,100 ha (22,600 ac), 98 percent of which is on the Fort Hunter Liggett Military Reservation. This is the northernmost known occurrence of arroyo toads and is approximately 160 km (100 mi) north of the nearest documented extant population. The protection and recovery of this population 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 the Sisquoc River and adjacent uplands, from Sycamore Campground downstream to its confluence with the Santa Maria River. The unit encompasses approximately 11,700 ha (28,900 ac), of which 67 percent is private land and 33 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.

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 5,700 ha (14,100 ac) within the Los Padres National Forest, with over 90 percent on National Forest lands and the remainder in private inholdings. Proposed portions of the upper Santa Ynez River watershed extend from Jameson Reservoir down to Gibraltar Reservoir. Indian Creek basin is proposed from the Buckthorn Creek confluence down to the Mono Debris Dam. Mono Creek is proposed from the first unnamed stream below The Narrows to its confluence with the Santa Ynez River. A substantial and well-studied arroyo toad population occurs in this area (Sweet 1992, 1993). It is likely the remnants of a much larger population that historically extended downstream below what is now Lake

Cachuma and upstream into the area occupied by Jameson Reservoir.

Unit 4: Sespe Creek, Ventura County

Unit 4 includes 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 5,800 ha (14,300 ac), of which 96 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. In all likelihood, arroyo toad populations in units 4, 5, and 6 historically were part of a large Santa Clara River Basin metapopulation. Substantive 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 A), and from Piru Gorge downstream to Lake Piru (Subunit B). Subunit B also includes Agua Blanca Creek from Devil's Gateway downstream to the confluence with Piru Creek. The unit encompasses approximately 7,800 ha (19,300 ac), 95 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).

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

Unit 6 includes portions of Castaic Creek, San Francisquito Creek, the upper Santa Clara River, and adjacent uplands. The unit encompasses approximately 13,900 ha (34,300 ac), of which 77 percent is private land and 23 percent is within the Angeles National Forest. The proposed portion of Castaic Creek extends from Cienega Spring downstream to Castaic Lake (Subunit A). A portion of Fish Creek above the confluence with Castaic Creek is also included in Subunit A. Arroyo toads occur below Castaic Lake to the confluence of the Santa Clara River (Subunit B). The upper Santa Clara River is proposed from Bee Canyon downstream to the confluence with Castaic Creek (Subunit B). San Francisquito Creek is proposed from Bee Canyon (a different Bee Canyon) to the confluence with the Santa Clara River

(Subunit B). San Francisquito Creek offers an excellent opportunity for expanding the Upper Santa Clara arroyo toad population with appropriate management of nonnative plants and habitat rehabilitation.

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 8,700 ha (21,500 ac), of which 68 percent is within the Angeles National Forest and 32 percent is private land. Big Tujunga Creek is proposed from Big Tujunga Dam downstream to Hansen Lake (Subunit A) (excluding Big Tujunga Reservoir). Big Tujunga Creek upstream from Big Tujunga Lake to 2 km (1.2 mi) above the confluence with Alder Creek, Mill Creek from the Monte Cristo Creek confluence downstream to Big Tujunga Creek, and Alder Creek from the Mule Fork confluence downstream to Big Tujunga Creek are proposed (Subunit B). Arroyo Seco is proposed from the Long Canyon confluence downstream to Devil's Gate Reservoir (Subunit C). Arroyo toads occupy each of these drainages. Big Tujunga Creek below the reservoir is an area with high potential for expanding toad numbers through careful management of land use activities and water releases from the dam.

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. The latter two units are largely encompassed by Camp Pendleton Marine Corps Base.

Unit 8: Santiago Creek, Orange County

Unit 8 is centered around the confluence of Santiago, Black Star, and Baker creeks, just above Irvine Lake. The unit encompasses approximately 1,200 ha (3,000 ac), 95 percent of which is private land and 5 percent is within the Cleveland National Forest. Black Star Creek is proposed from near the southwest corner of Section 30 (T4S, R7W) downstream to Santiago Creek. An approximately 3 km (1.9 mi) stretch of lower Baker Canyon is proposed. Portions of the Orange County Central/Coastal Natural Community Conservation Planning Act of 1991 (NCCP)/HCP planning area fall within the unit boundaries, but areas where

take has been authorized are not being proposed for critical habitat. The current status of arroyo toads in this unit is poorly known, but there are historic records from the 1970s and high-quality habitat still exists in the area. The unit is important for arroyo toad recovery, as it is the northernmost remaining habitat in Orange County and supports the only remaining population within the lower Santa Ana River Basin.

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

Unit 9 includes portions of the San Jacinto River and Bautista Creek and adjacent uplands, several miles east of the town of Hemet. The unit encompasses approximately 5,370 ha (13,300 ac), of which 62 percent is private land and 24 percent is within the San Bernardino National Forest. The San Jacinto River is proposed from the Sand Canyon confluence downstream to just below the confluence with Indian Creek. The lower 1 km (0.6 mi) of Indian Creek is also included. Bautista Creek is proposed from near the middle of section 20 (T6S, R2E) downstream to near the middle of section 21 (T5S, R1E), at the point where the levee starts. The current status of arroyo toads in this unit is poorly known, but there are historic records from the 1970s and high quality habitat still exists in the area. It is an important area for recovery, being the only remaining area in the San Jacinto River Basin capable of supporting a substantial population.

Approximately 330 ha (815 ac) of the Soboba Indian Reservation are included in this unit. Within the Reservation, riparian and associated upland habitats along lower Indian Creek and the San Jacinto River are considered essential for the conservation of the arroyo toad. Based on the outcome of discussions with the Soboba Tribe, and the results of our 4(b)(2) analysis, critical habitat on these Tribal lands may be appropriate and has been identified in this proposed rule.

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 8,600 ha (21,300 ac), of which 59 percent is private land, 21 percent is Orange County park land (*i.e.*, Caspers Wilderness Park and O'Neil Regional Park), and 20 percent is on the Cleveland National Forest. The proposed portion of San Juan Creek extends from the bottom of Decker Canyon downstream to Interstate 5 (Subunit A). The proposed portion of Bell Canyon extends from just below

Crow Canyon downstream to the confluence with San Juan Creek (Subunit A). An approximately 8 km (5 mi) stretch of Trabuco Creek is proposed, extending downstream from Falls Canyon (Subunit B). San Juan Creek supports a large arroyo toad population, which is concentrated within Caspers Wilderness Park and private lands downstream. Trabuco Creek is occupied by arroyo toads, but there is little additional information on their distribution and abundance in this drainage. Although habitat has been degraded in the far downstream portions of San Juan Creek, there is still high potential for restoration and recovery in this area.

Unit 11: San Mateo and San Onofre Basins, San Diego and Orange Counties

Unit 11 includes portions of San Mateo, San Onofre, Christianitos, Talega, Gabino, and La Paz creeks, and adjacent uplands. The unit encompasses approximately 11,200 ha (27,600 ac), of which 78 percent is within the Camp Pendleton Marine Corps Base and 20 percent is on private land. The proposed portion of San Mateo Creek extends from Devils Canyon downstream to Interstate 5. The proposed portion of San Onofre Creek extends approximately 16 km (10 mi) upstream from Interstate 5 and includes portions of Jardine Canyon. Christianitos Creek is proposed from just above Gabino Creek downstream to the confluence with San Mateo Creek. An approximately 5 km (3.1 mi) stretch of Gabino Creek upstream from its confluence with Christianitos Creek is proposed, including about 1 km (0.6 mi) of La Paz Creek. An approximately 7 km (4.4 mi) stretch of Talega Creek upstream from its confluence with Christianitos Creek is also proposed. This unit supports a large number of arroyo toads (D.C. Holland, unpubl. data) and one of the few remaining populations on the coastal plain.

Unit 12: Lower Santa Margarita River, San Diego County

Unit 12 includes the Santa Margarita River and adjacent uplands, from the lower end of Temecula Canyon to Interstate 5. It also includes De Luz Creek from the town of De Luz to the confluence with the Santa Margarita River and approximately 2.5 km (1.6 mi) of Roblar Creek above its confluence with the Santa Margarita River. The unit encompasses approximately 9,800 ha (24,200 ac), of which 74 percent is within either the Camp Pendleton Marine Corps Base or the Fallbrook Naval Weapons Station and 25 percent is on private land. The arroyo toad

population within this unit is large (D.C. Holland, unpubl. data) and one of the few remaining on the coastal plain.

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 9,800 ha (24,200 ac), of which 78 percent is private land and 18 percent is within the Cleveland National Forest. Temecula Creek is proposed from Dodge Valley downstream to Vail Lake. Wilson Creek is proposed from Lancaster Valley down to Vail Lake, and the Arroyo Seco segment extends from Crosley Homestead down to Vail Lake. The broad, flat alluvial valleys found in this unit contain high-quality habitat for arroyo toads, and the species occurs in each of the proposed drainages. It is the largest and highest quality area of suitable arroyo toad habitat in Riverside County.

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 the lower portion of Keys Creek. The unit encompasses approximately 13,400 ha (33,100 ac), of which 77 percent is private land and 17 percent is Tribal land. The San Luis Rey River is proposed from the western edge of the La Jolla Indian Reservation downstream to the confluence with Guajome Creek near the city of Oceanside. Approximately 2.7 km (1.7 mi) of Keys Creek upstream from the confluence with the San Luis Rey is also proposed. This long, low-elevation (all below 305 m (1,000 ft) in elevation) unit, situated in a broad, flat valley, is prime occupied habitat for arroyo toads. Approximately 1,365 ha (3,375 ac) of the Pala Indian Reservation and 920 ha (2,275 ac) of the Rincon Indian Reservation are included in this unit. Within these reservations, riparian and associated upland habitats along the San Luis Rey River, Pala Creek, and other tributary streams are considered essential for the conservation of the arroyo toad.

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 greatly reduced habitat quality in the upper and lower portions of this drainage, leaving only the middle stretch of the river with any remaining high quality, occupied toad habitat. Approximately 19 percent of the identified remaining suitable habitat

along the San Luis Rey is on Tribal land (13 percent on the Pala and 6 percent on the Rincon). The Pala Reservation is in the middle of the San Luis Rey critical habitat unit. If habitat on the reservation is lost, the remaining population would be highly fragmented and vulnerable to extirpation. Also, land uses on the stream terrace (primarily agricultural fields) have been more intensive on the private lands, particularly in the lower end of the unit. Thus, the Tribal lands actually support a greater percentage of high quality upland habitat. Based on the outcome of discussions with the Pala and Rincon Indian Tribes, and the results of our 4(b)(2) analysis, critical habitat on these Tribal lands may be appropriate and has been identified in this proposed rule.

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 7,400 ha (18,300 ac), of which 68 percent is private land and 32 percent is within the Cleveland National Forest. The upper San Luis Rey River is proposed from the Indian Flats area downstream to the upper end of Lake Henshaw (Subunit A). Agua Caliente Creek is proposed from the western edge of section 13 (T10S, R3E) to the confluence with the San Luis Rey (Subunit A). An approximately 2.5 km (1.6 mi) stretch of the West Fork of the San Luis Rey River is proposed where it runs through Barker Valley (Subunit B). Arroyo toads occur in each of these drainages, with the largest concentration found along Agua Caliente Creek. This unit contains an important assemblage of several small, disjunct, high-elevation populations and one large, core population 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 9,500 ha (23,500 ac), of which 76 percent is private land and 20 percent is within the Cleveland National Forest. Santa Ysabel Creek is proposed 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 MSCPA area) (Subunit A). Approximately 7 km (4.3 mi) of Temescal Creek is proposed from the

northern edge of Pamo Valley to the confluence with Santa Ysabel Creek (Subunit A). Approximately 12 km (7.5 mi) of Guejito Creek is proposed from the 610 m (2,000 ft) elevation contour downstream to the San Diego MSCP boundary near San Pasqual Valley (Subunit B). Approximately 10 km (6 mi) of Santa Maria Creek is proposed from the west side of Ramona to the San Diego MSCP boundary near San Pasqual Valley (Subunit C). Arroyo toads occur in each of these drainages, with a particularly substantial concentration in Pamo Valley. This unit provides an important linkage to a substantial arroyo toad population in San Pasqual Valley that occurs 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 5,100 ha (12,600 ac), of which 65 percent is private land and 22 percent is within the Cleveland National Forest. Subunit A includes the San Diego River from Ritchie Creek downstream to the upper edge of El Capitan Reservoir (including approximately 1 km (0.6 mi) of lower Cedar Creek) and San Vicente Creek from the eastern end of San Diego Country Estates downstream to where the creek crosses Wildcat Canyon Road (the MSCP area boundary). Subunit B extends from El Capitan Reservoir to El Monte County Park. Subunit C extends from approximately 2 km (1.2 mi) below El Monte County Park downstream to the confluence with San Vicente Creek. The upper San Diego River and San Vicente Creek are both occupied by arroyo toads. This unit also provides an important linkage to populations occurring within the San Diego MSCP area. Approximately 360 ha (900 ac) of the Capitan Grande Indian Reservation are included in this unit. Within the Reservation, riparian and associated upland habitats along the upper San Diego River above El Capitan Lake are considered essential for the conservation of the arroyo toad. Based on the outcome of discussions with the Barona and Viejas Indian Tribes (which jointly govern the Capitan Grande Reservation), and the results of our 4(b)(2) analysis, critical habitat on these Tribal lands may be appropriate and has been identified in this proposed rule. Approximately 190 acres of the Barona Indian Reservation south of San Vicente Creek are also included in this unit. These acres are not considered to be high-quality arroyo toad habitat; they lie within the unit boundary because of the

spatial scale at which these units were mapped. Thus, Tribal lands on the Barona Indian Reservation are not considered essential to conserve the toad and are not being proposed for critical habitat. Because of the short time-line associated with this proposal, we were unable to accurately remove this area from the proposed critical habitat boundaries.

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 11,410 ha (28,200 ac), of which 52 percent is private land, 22 percent is on California State Park land, 17 percent is within the Cleveland National Forest, and 6 percent is on the San Diego National Wildlife Refuge. Three disjunct portions of the Sweetwater River are proposed: from the top of Upper Green Valley in Cuyamaca Rancho State Park downstream to the San Diego MSCP area boundary (Subunit A), an approximately 1-km (0.6-mi) segment immediately above Loveland Reservoir that is outside the MSCP area boundary (Subunit B), and from immediately below Loveland Dam downstream to the upper edge of Sweetwater Reservoir (Subunit C). Peterson Canyon is proposed from just east of the Taylor Creek confluence downstream to the top of Loveland Reservoir (Subunit A). Viejas Creek is proposed 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) (Subunit A). All of the drainages included in this unit support arroyo toads. The unit provides an important linkage to populations on the lower Sweetwater River, which occur within the San Diego MSCP area. Approximately 185 ha (460 ac) of the Sycuan Indian Reservation and 100 ha (250 ac) of the Viejas Indian Reservation are included in this unit. Within the reservations, riparian and associated upland habitats along Viejas Creek (Viejas Reservation) and the lower part of Sycuan Creek (Sycuan Reservation) are considered essential for the conservation of the arroyo toad. Based on the outcome of discussions with the Viejas and Sycuan Indian Tribes, and the results of our 4(b)(2) analysis, critical habitat on these Tribal lands may be appropriate and has been identified in this proposed rule.

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. The unit, which is the largest proposed, encompasses approximately 18,000 ha (44,500 ac), of which 54 percent is within the Cleveland National Forest and 34 percent is private land. Two disjunct portions of Cottonwood Creek are proposed: From Buckman Springs (near Interstate 8) downstream to Morena Reservoir including approximately 13 km (8.1 mi) of La Posta Creek, 6 km (3.7 mi) of Morena Creek, and 2.5 km (1.6 mi) of Kitchen Creek (Subunit A). Subunit B extends from approximately 4 km (2.5 mi) below Morena Reservoir downstream to State Highway 94 (excluding Barrett Reservoir) and Potrero Creek from approximately the 752 m (2,466 ft) elevation benchmark downstream to the confluence with Cottonwood Creek. Two disjunct portions of Pine Valley Creek are proposed: From the north edge of section 12 (T15S, R4E) downstream to approximately 1 km (0.6 mi) south of Interstate 8 including approximately 4 km (2.5 mi) of Scove Canyon and 1 km (0.6 mi) of Noble Creek (Subunit C) and from the Nelson Canyon confluence downstream to Barrett Reservoir (Subunit D). Approximately 170 ha (425 ac) of the La Posta Indian Reservation are included in this unit. Within the Reservation, riparian and associated upland habitats along La Posta Creek are considered essential for the conservation of the arroyo toad. Based on the outcome of discussions with the La Posta Tribe, and the results of our 4(b)(2) analysis, critical habitat on these Tribal lands may be appropriate and has been identified in this proposed rule. 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.

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. Sufficient habitat needs to be secured and managed so that threats are

reduced and each population can increase in size.

Unit 20: Little Rock Creek, Los Angeles County

Unit 20 includes approximately 5 km (3.1 mi) of Little Rock Creek below Little Rock Reservoir (Subunit A) and from the South Fork confluence downstream to Little Rock Reservoir (Subunit B). Also included in Subunit B is an approximately 1.5 km (0.9 mi) segment of Santiago Creek upstream of the confluence with Little Rock Creek and adjacent uplands. The unit encompasses approximately 3,000 ha (7,400 ac), of which 79 percent is within the Angeles National Forest and 20 percent is private land. A substantial arroyo toad population occurs in this unit, in which the management of recreational activities has recently changed. Studies are currently under way to better determine the distribution of the population along the creek and to assess upland habitat use (Ramirez 2000).

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 14,200 ha (35,100 ac), of which 26 percent is within the San Bernardino National Forest, 56 percent is private land, and 9 percent is U.S. Army Corps of Engineers-managed land associated with the flood control reservoir. Two separate segments of the Mojave River are proposed: (1) From Mojave River Forks Dam downstream approximately 4 km (2.5 mi) and (2) from approximately 2 km (1.2 mi) southeast of the Upper Narrows (section 14, T5N, R4W) downstream to approximately 6 km (3.7 mi) below the Lower Narrows (section 13, T6N, R5W). The West Fork is proposed from near the 1462 m (3,613 ft) elevation benchmark downstream to the confluence with Deep Creek (excluding Silverwood Lake). Deep Creek is proposed from near Devil's Hole to the confluence with the West Fork.

Horsethief Canyon is proposed from Little Horsethief Creek to the confluence with the West Fork of the Mojave River. Little Horsethief Creek is proposed from approximately the western edge of section 28 (T3N, R5W) downstream to the confluence with Horsethief Creek. Summit Valley, through which Horsethief Creek flows, to and downstream of the confluence with the West Fork, is a broad, flat, alluvial valley that supports large numbers of arroyo toads (Ramirez 1999). It is probably the largest concentration of arroyo toads on the desert side of the mountains.

Unit 22: Whitewater River, Riverside County

Unit 22 includes portions of the Whitewater River and adjacent uplands, from near Red Dome downstream to one-quarter mile south of Interstate 10. The unit encompasses approximately 2,400 ha (5,900 ac), of which 56 percent is BLM land and 44 percent is private land. The current status of arroyo toads in this unit is poorly known, but recent sightings have occurred and high-quality habitat still exists in the area.

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	8,908 ha (22,013 ac).	0	0	218 ha (539 ac) ..	9,126 ha (22,552 ac)
San Luis Obispo	0	0	0	0	0	0	253 ha (625 ac) ..	253 ha (625 ac)
Santa Barbara	9,008 ha (22,260 ac).	0	0	0	0	0	8,120 ha (20,066 ac).	17,128 ha (42,326 ac)
Ventura	10,575 ha (26,130 ac).	0	0	0	0	0	546 ha (1,350 ac)	11,121 ha (27,480 ac)
Los Angeles	13,914 ha (34,382 ac).	58 ha (143 ac)	0	0	58 ha (143 ac)	0	14,050 ha (34,719 ac).	28,080 ha (69,387 ac)
San Bernardino	3,725 ha (9,204 ac).	496 ha (1,225 ac)	0	1,221 ha (3,017 ac).	816 ha (2,016 ac)	0	7,943 ha (19,627 ac).	14,200 ha (35,089 ac)
Riverside	3,132 ha (7,738 ac).	1,949 ha (4,817 ac).	0	0	103 ha (255 ac) ..	330 ha (815 ac) ..	10,085 ha (24,920 ac).	15,599 ha (38,545 ac)
Orange	1,178 ha (2,910 ac).	0	0	51 ha (125 ac)	1,854 ha (4,581 ac).	0	8,431 ha (20,833 ac).	11,514 ha (28,449 ac)
San Diego	18,062 ha (44,631 ac).	1,424 ha (3,519ac).	723 ha (1,787 ac)	15,922 ha (39,344 ac).	4,436 ha (10,960 ac).	3,100 ha (7,660 ac).	42,924 ha (106,066 ac).	86,591 ha (213,963 ac)
Total	59,594 ha (147,255 ac).	3,927 ha (9,704 ac).	723 ha (1,787 ac)	26,103 ha (64,499 ac).	7,267 ha (17,955 ac).	3,430 ha (8,475 ac).	92,572 ha (228,745 ac).	193,616 ha (478,419 ac)

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 diminish 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 designated or proposed. 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 the likelihood of jeopardizing the continued existence of listed species or result in the 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) 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 the 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.

Designation of critical habitat could affect Federal agency activities. 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 agencies;

(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 on Fort Hunter Liggett, Camp Pendleton, 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.

Relationship to Habitat Conservation Plans

A number of habitat conservation planning efforts have been completed within the range of the arroyo toad. Principal among these are the NCCP 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. Incidental take of arroyo toads is authorized through the MSCP, but only for certain upland areas outside of U.S. Army Corps of Engineers jurisdiction.

All lands within the MSCP planning areas considered essential to the

conservation of the arroyo toad were identified as preserve areas and are managed for the benefit of the arroyo toad under the terms of the MSCP. Therefore, with one exception, we have determined that non-Federal lands within MSCP planning areas that have an approved plan and an executed implementation agreement, approved as of the date of this rule, do not meet the definition of critical habitat in the Act, and we are not proposing designation of such lands as critical habitat. The exception concerns the reach of the Sweetwater River between Loveland and Sweetwater Reservoirs that is 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 the approved County's MSCP plan. Therefore, we have included this limited reach of the Sweetwater River as critical habitat.

The arroyo toad has been identified as a "conditionally covered" species by the Orange County Central/Coastal Subregion NCCP/HCP. "Conditional coverage" allows projects to proceed within the Central/Coastal subregion that will impact "smaller populations (except for the lower Limestone Creek population), reintroduced populations, or populations that have expanded due to NCCP reserve management" (pg. 94, Orange County Central/Coastal NCCP/HCP IA, Section 8.3.2). However, "habitat that supports a major arroyo toad population that plays an essential role in the distribution of the arroyo toad in the subregion is not covered" (pg. 94, Orange County Central/Coastal NCCP/HCP IA, Section 8.3.2). We are not proposing designation of critical habitat in the Orange County Central/Coastal NCCP/HCP planning area where take has been authorized.

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 provide technical assistance and work closely with applicants throughout the development of 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. These HCPs, which will incorporate appropriate adaptive management, should provide for the conservation of the species. Furthermore, we will be doing intra-service consultation on the impacts of these HCPs on designated critical habitat and determining whether it would destroy or adversely modify critical habitat. We are soliciting comments on whether future approval of HCPs and issuance of section 10(a)(1)(B) permits for the arroyo toad should trigger revision of designated critical habitat to exclude lands within the HCP area and, if so, by what mechanism (*see* Public Comments Solicited section).

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 N.E. 11th Ave, Portland, OR 97232 (telephone 503/231-2063; facsimile 503/231-6243).

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. We will conduct an analysis of the economic impacts of designating these areas as critical habitat prior to a final determination. When completed, we will announce the availability of the draft economic analysis with a notice in the **Federal Register**, and we will reopen the comment period 30 days at that time to accept comments on the economic analysis or further comments on the proposed rule.

Public Comments Solicited

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, we solicit comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule. We particularly seek comments concerning:

(1) The reasons why any habitat should or should not be determined to be critical habitat for the arroyo toad as provided by section 4 of the Act, including whether the benefits of designation will outweigh any threats to the species due to designation;

(2) Specific information on the distribution of the arroyo toad, the amount and distribution of its habitat, and what habitat is essential to the conservation of the species and why;

(3) Land use practices and current or planned activities in the subject areas and their possible impacts on proposed critical habitat;

(4) Any foreseeable economic or other impacts resulting from the proposed designation of critical habitat, in particular, any impacts on small entities or families; and

(5) Economic and other values associated with designating critical habitat for the arroyo toad, such as those derived from nonconsumptive uses (e.g., hiking, camping, bird-watching, enhanced watershed protection, improved air quality, increased soil retention, "existence values," and reductions in administrative costs).

In this proposed rule, we do not propose to designate critical habitat on non-Federal and private lands within the boundaries of any existing HCP and subarea plan with an executed Implementation Agreement and permit for arroyo toads approved under section 10(a)(1)(B) of the Act on or before the date of the final rule designating critical habitat for the toad. We believe that, since an existing HCP provides for long-term commitments to conserve the species and areas essential to the conservation of the arroyo toad, such areas do not meet the definition of

critical habitat because they do not need special management considerations or protection. However, we are specifically soliciting comments on the appropriateness of this approach, and on the following or other alternative approaches for critical habitat designation in areas covered by existing approved HCPs:

(1) Designate critical habitat without regard to existing HCP boundaries and allow the section 7 consultation process on the issuance of the incidental take permit to ensure that any take we authorized will not destroy or adversely modify critical habitat;

(2) Designate as critical habitat reserves, preserves, and other conservation lands identified by approved HCPs on the premise that they encompass areas that are essential to conservation of the species within the HCP area and will continue to require special management protection in the future. Under this approach, all other lands covered by existing approved HCPs where incidental take for the arroyo toad is authorized under a legally operative permit pursuant to section 10(a)(1)(B) of the Act would be excluded from critical habitat.

The amount of critical habitat we designate for the arroyo toad in a final rule may either increase or decrease, depending upon which approach we adopt for dealing with designation in areas of existing approved HCPs.

Additionally, we are also seeking comments on critical habitat designation relative to future HCPs. Several conservation planning efforts are now under way within the range of the arroyo toad, and other listed and nonlisted species, in areas we are proposing as critical habitat. For areas where HCPs are currently under development, we are proposing to designate critical habitat for areas that we believe are essential to the conservation of the species and need special management or protection. We invite comments on the appropriateness of this approach.

In addition, we invite comments on the following, or other approaches, for addressing critical habitat within the boundaries of future approved HCPs upon issuance of section 10(a)(1)(B) permits for the arroyo toad:

(1) Retain critical habitat designation within the HCP boundaries and use the section 7 consultation process on the issuance of the incidental take permit to ensure that any take we authorize will not destroy or adversely modify critical habitat;

(2) Revise the critical habitat designation upon approval of the HCP and issuance of the section 10(a)(1)(B)

permit to retain only preserve areas, on the premise that they encompass areas essential for the conservation of the species within the HCP area and require special management and protection in the future. Assuming that we conclude, at the time an HCP is approved and the associated incidental take permit is issued, that the plan protects those areas essential to the conservation of the arroyo toad, we would revise the critical habitat designation to exclude areas outside the reserves, preserves, or other conservation lands established under the plan. Consistent with our listing program priorities, we would publish a proposed rule in the **Federal Register** to revise the critical habitat boundaries;

(3) As in (2) above, retain only preserve lands within the critical habitat designation, on the premise that they encompass areas essential for conservation of the species within the HCP area and require special management and protection in the future. However, under this approach, the exclusion of areas outside the preserve lands from critical habitat would occur automatically upon issuance of the incidental take permit. The public would be notified and have the opportunity to comment on the boundaries of the preserve lands and the revision of designated critical habitat during the public review and comment process for HCP approval and permitting;

(4) Remove designated critical habitat entirely from within the boundaries of an HCP when the plan is approved (including preserve lands), on the premise that the HCP establishes long-term commitments to conserve the species, and no additional special management or protection is required. This exclusion from critical habitat would occur automatically upon issuance of the incidental take permit. The public would be notified and have the opportunity to comment on the revision of designated critical habitat during the public notification process for HCP approval and permitting; or

(5) Remove designated critical habitat entirely from within the boundaries of an HCP when the plan is approved (including preserve lands), on the premise that the HCP establishes long-term commitments to conserve the species, and no further special management or protection is required. Consistent with our listing program priorities, we would publish a proposed rule in the **Federal Register** to revise the critical habitat boundaries.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours.

Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by law. In some circumstances, we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Peer Review

In accordance with our policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure listing decisions are based on scientifically sound data, assumptions, and analyses. We will send these peer reviewers copies of this proposed rule immediately following publication in the **Federal Register**. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designation of critical habitat.

We will consider all comments and information received during the 60-day comment period on this proposed rule during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposal.

Public Hearings

The Act provides for one or more public hearings on this proposal, if requested. Given the large geographic extent covered by this proposal, the high likelihood of multiple requests, and the need to publish the final

determination by January 1, 2001, we have scheduled two public hearings. The hearings are scheduled to be held in Valencia, California, on June 27, 2000, and in Temecula, California, on June 29, 2000. Written comments submitted during the comment period are considered to be of equal weight as comments presented at a public hearing. For additional information on public hearings, see the **ADDRESSES** section.

Anyone wishing to make an oral statement for the record is encouraged to provide a written copy of their statement and present it to us at the hearing. In the event of large attendance, the time allotted for oral statements may be limited. Oral and written statements receive equal consideration. There are no limits to the length of written comments presented at the hearing or mailed to us. Legal notices announcing the date, time, and location of the hearings are published in the **ADDRESSES** section of this **Federal Register** notice.

Clarity of the Rule

Executive Order 12866 requires each agency to write regulations/notices that are easy to understand. We invite your comments on how to make proposed rules easier to understand including answers to questions such as the following: (1) Are the requirements in the document clearly stated? (2) Does the proposed rule contain technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the proposed rule in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? What else could we do to make the proposed rule easier to understand?

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant

rule and has been reviewed by the Office of Management and Budget (OMB), 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 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.

Under the Act, critical habitat may not be adversely modified by a Federal agency action; critical habitat does not impose any restrictions 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). 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).

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, 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.

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

Categories of activities	Activities potentially affected by species listing only ¹	Additional activities potentially affected by critical habitat designation ²
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, 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.

(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.

(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 incremental effects in areas of occupied habitat.

(d) This rule will not raise novel legal or policy issues. The proposed rule follows the requirements for determining critical habitat contained in the Act.

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

In the economic analysis (under section 4 of the Act), we will determine whether designation of critical habitat will have a significant effect on a substantial number of small entities. As discussed under Regulatory Planning and Review above, 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 Proposed 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 agencies;

(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 on Fort Hunter Liggett, Camp Pendleton, 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 the proposed 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 rule will have no additional restrictions.

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

In the economic analysis, we will determine whether designation of critical habitat will 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. As discussed above, we anticipate that the designation of critical habitat will not have any additional effects on these activities in areas of critical habitat occupied by the species.

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 destroy or adversely modify 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; *i.e.*, 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.

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 action. 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. Additionally, critical habitat designation does not preclude development of habitat conservation plans 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.

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 proposal with appropriate State resource agencies in California. We will continue to coordinate any future designation of critical habitat for the arroyo toad with the appropriate State agencies. 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).

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 propose to designate critical habitat in accordance with the provisions of the Act, and will hold public hearings on the proposed designation during the comment period. 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.

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

This rule does not contain any information collection requirements that require Office of Management and Budget approval under the Paperwork Reduction Act.

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).

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) and 512 DM 2, we understand that we must coordinate 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 considering designating critical habitat for the arroyo toad on Tribal lands. 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 according to section 4(b)(2) of the Act. However, we cannot exclude such areas from critical habitat when such exclusion will result in the extinction of the species. Due to the short amount of time allowed under the settlement agreement for preparing this rule, we have not yet consulted with the affected Tribes, but we will do so before making a final decision on critical habitat.

References Cited

- Barto, W.S. 1999. Predicting potential habitat for the arroyo toad (*Bufo microscaphus californicus*) in San Diego County using a habitat suitability model and digital terrain data. Unpublished Masters thesis, San Diego State University. vii + 135 pp.
- Gergus, E.W.A. 1998. Systematics of the *Bufo microscaphus* complex: allozyme evidence. *Herpetologica* 54(3): 317-325.
- Griffin, P.C., T.J. Case, and R.N. Fisher. 1999. Radio telemetry study of *Bufo californicus*, arroyo toad movement patterns and habitat preferences. Contract report to California Department of Transportation Southern Biology Pool. v + 66 pp.
- Jennings, M.R., and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final report to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. Contract 8023. iii + 255 pp.
- Ramirez, R. S., Jr. 2000. Arroyo toad (*Bufo californicus*) radio telemetry study, Little Rock Creek, Los Angeles County, California. Interim Report. Prepared for U.S.D.A. Forest Service, Angeles National Forest, Arcadia, California. 62 + v pp., plus appendix.
- U.S. Fish and Wildlife Service. 1999. Arroyo southwestern toad (*Bufo microscaphus californicus*) recovery plan. U.S. Fish and Wildlife Service, Portland, Oregon. vi + 119 pp.
- U.S. Forest Service. 1999. Untitled, unpublished document regarding arroyo toad findings on Piru Creek. Los Padres National Forest, Mt. Pinos Ranger District. 4 pp.

Author(s)

The primary authors of this proposed 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.

Proposed Regulation Promulgation

For the reasons given in the preamble, we propose to amend 50 CFR part 17 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).	<i>Bufo microscaphus californicus</i> .	U.S.A. (CA), Mexico	Entire	E	568	17.95(d)	NA
*	*	*	*	*	*	*	*

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

§ 17.95 Critical habitat—fish and wildlife.

* * * * *
(d) Amphibians.
* * * * *

Arroyo southwestern toad (*Bufo microscaphus 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 terrace and upland habitats up to 25 m (80 ft) elevation above the stream course and within 1.5 km (0.9 mi) from the stream course.

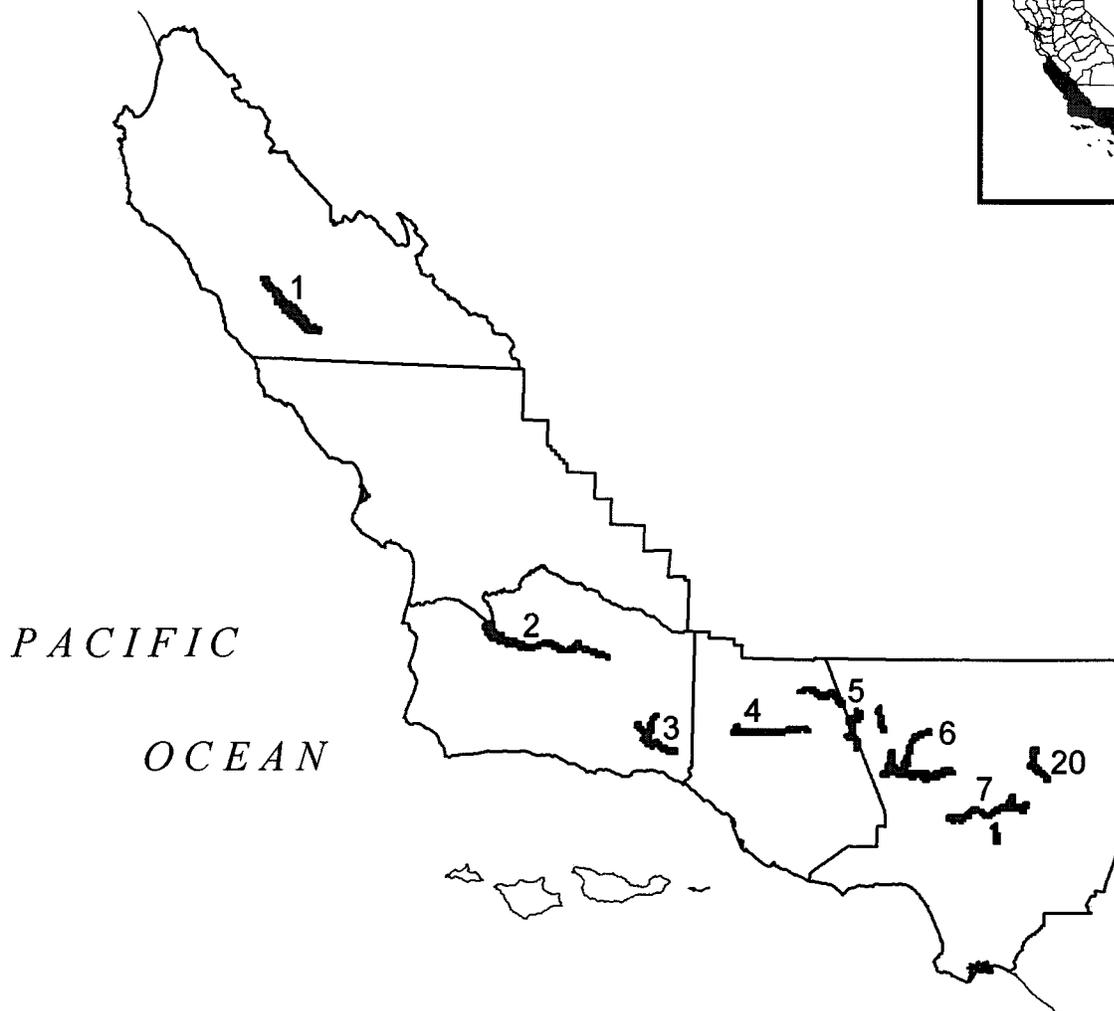
3. Within these areas, primary constituent elements for the arroyo toad include a hydrologic regime that supplies sufficient flowing water of

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 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).

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Index 1:
Proposed Arroyo Toad Critical Habitat Units



Index 2: Proposed Arroyo Toad Critical Habitat Units





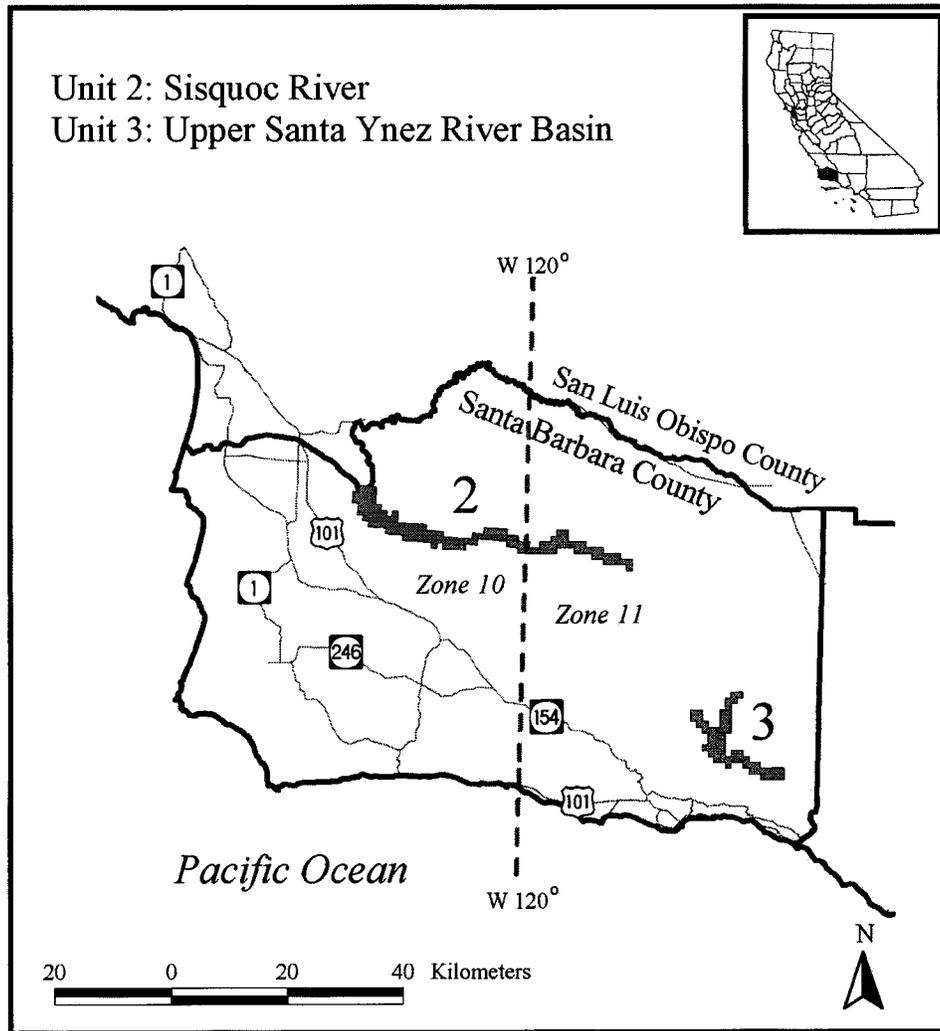
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Map Unit 1: San Antonio River, Monterey County, California. From USGS 1:24,000 quadrangle maps Bear Canyon, Cosio Knob, Alder Peak, Jolon, and Williams Hill. In UTM Zone 10, the lands, primarily on Fort Hunter Liggett Military Reservation, bounded by the following UTM NAD27 coordinates (E,N): 651000, 3993000; 654000, 3993000; 654000, 3991000; 655000, 3991000; 655000, 3990000; 656000, 3990000; 656000, 3989000; 658000, 3989000; 658000, 3988000; 659000, 3988000; 659000, 3986000; 660000,

3986000; 660000, 3985000; 661000, 3985000; 661000, 3984000; 663000, 3984000; 663000, 3983000; 665000, 3983000; 665000, 3982000; 666000, 3982000; 666000, 3981000; 667000, 3981000; 667000, 3979000; 669000, 3979000; 669000, 3978000; 670000, 3978000; 670000, 3976000; 671000, 3976000; 671000, 3975000; 672000, 3975000; 672000, 3973000; 673000, 3973000; 673000, 3975000; 675000, 3975000; 675000, 3973000; 669000, 3973000; 669000, 3974000; 668000, 3974000; 668000, 3975000; 667000,

3975000; 667000, 3976000; 666000, 3976000; 666000, 3977000; 665000, 3977000; 665000, 3978000; 663000, 3978000; 663000, 3979000; 662000, 3979000; 662000, 3980000; 660000, 3980000; 660000, 3982000; 659000, 3982000; 659000, 3983000; 657000, 3983000; 657000, 3986000; 656000, 3986000; 656000, 3988000; 654000, 3988000; 654000, 3989000; 653000, 3989000; 653000, 3990000; 652000, 3990000; 652000, 3992000; 651000, 3992000; 651000, 3993000.

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Map Unit 2: Sisquoc River, Santa Barbara and San Luis Obispo counties, California. From USGS 1:24,000 quadrangle maps Twitchell Dam, Sisquoc, Foxen Canyon, Zaca Lake, Bald Mtn., and Hurricane Deck. In UTM Zone 10, the lands bounded by the following UTM NAD27 coordinates (E,N): 748000, 3867000; 748000, 3864000; 749000, 3864000; 749000, 3863000; 750000, 3863000; 750000, 3862000; 751000, 3862000; 751000, 3863000; 752000, 3863000; 752000, 3861000; 757000, 3861000; 757000, 3860000; 760000, 3860000; 760000, 3859000; 765000, 3859000; 765000, 3860000; 767000, 3860000; 767000, 3861000; 771000, 3861000; 771000, 3860000; 773000, 3860000; 773000, 3859000; 775000, 3859000; 775000, 3857000; 773000, 3857000; 773000, 3858000; 771000, 3858000; 771000, 3859000; 766000, 3859000; 766000, 3858000; 764000, 3858000; 764000, 3857000; 760000, 3857000; 760000, 3858000; 759000, 3858000; 759000, 3857000; 758000,

3857000; 758000, 3858000; 753000, 3858000; 753000, 3859000; 750000, 3859000; 750000, 3860000; 747000, 3860000; 747000, 3861000; 746000, 3861000; 746000, 3862000; 745000, 3862000; 745000, 3864000; 744000, 3864000; 744000, 3866000; 745000, 3866000; 745000, 3867000. In UTM zone 11, the lands bounded by the following UTM NAD83 coordinates (E,N): 231000, 3861000; 233000, 3861000; 233000, 3859000; 236000, 3859000; 236000, 3858000; 239000, 3858000; 239000, 3857000; 242000, 3857000; 242000, 3856000; 244000, 3856000; 244000, 3854000; 243000, 3854000; 243000, 3855000; 239000, 3855000; 239000, 3856000; 237000, 3856000; 237000, 3857000; 234000, 3857000; 234000, 3858000; 231000, 3858000; 231000, 3857000; 225000, 3857000; 225000, 3858000; 228000, 3858000; 228000, 3859000; 230000, 3859000; 230000, 3860000; 231000, 3860000; 231000, 3861000.

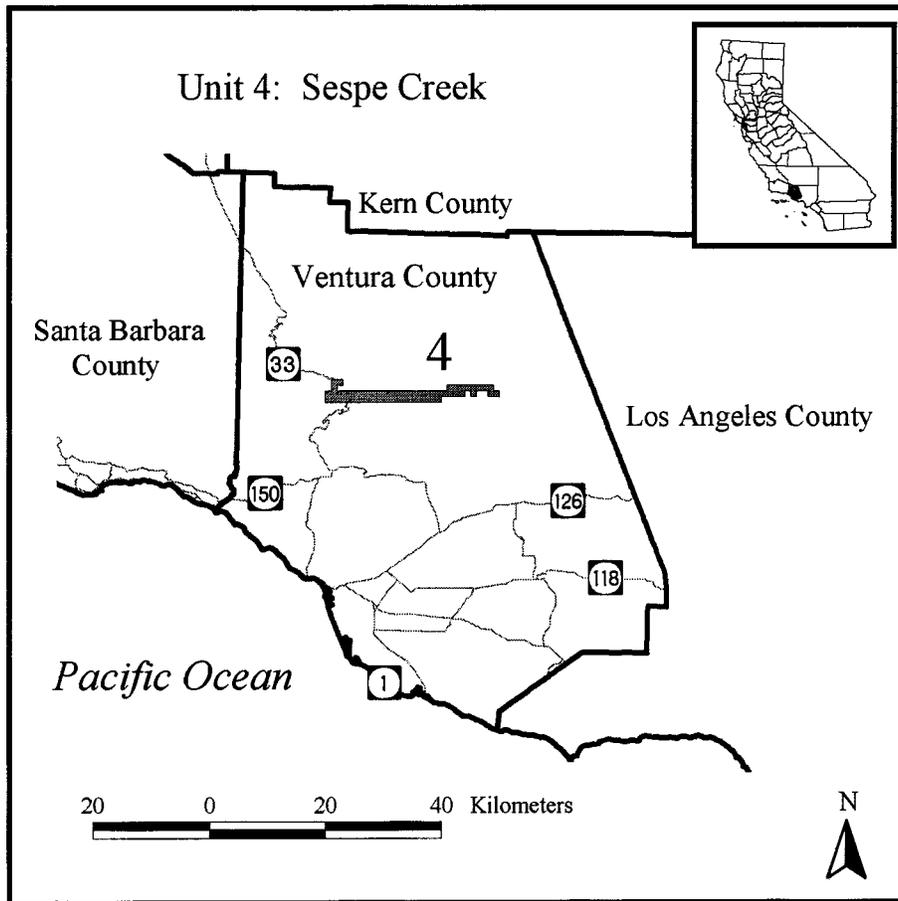
All remaining critical habitat units are in UTM zone 11, North American Datum 1927 (NAD27).

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): 261000,3833000; 263000,3833000; 263000,3832000; 262000,3832000; 262000,3831000; 261000,3831000; 261000,3826000; 260000,3826000; 260000,3822000; 261000,3822000; 261000,3823000; 263000,3823000; 263000,3822000; 264000,3822000; 264000,3821000; 266000,3821000; 266000,3820000; 270000,3820000; 270000,3818000; 266000,3818000; 266000,3819000; 264000,3819000; 264000,3820000; 263000,3820000; 263000,3821000; 261000,3821000; 261000,3820000; 260000,3820000; 260000,3821000; 258000,3821000; 258000,3822000; 257000,3822000; 257000,3823000; 256000,3823000; 256000,3824000; 257000,3824000;

257000,3826000; 256000,3826000;
 256000,3827000; 255000,3827000;
 255000,3828000; 254000,3828000;
 254000,3830000; 256000,3830000;

256000,3828000; 257000,3828000;
 257000,3827000; 259000,3827000;
 259000,3830000; 260000,3830000;

260000,3832000; 261000,3832000;
 261000,3833000.
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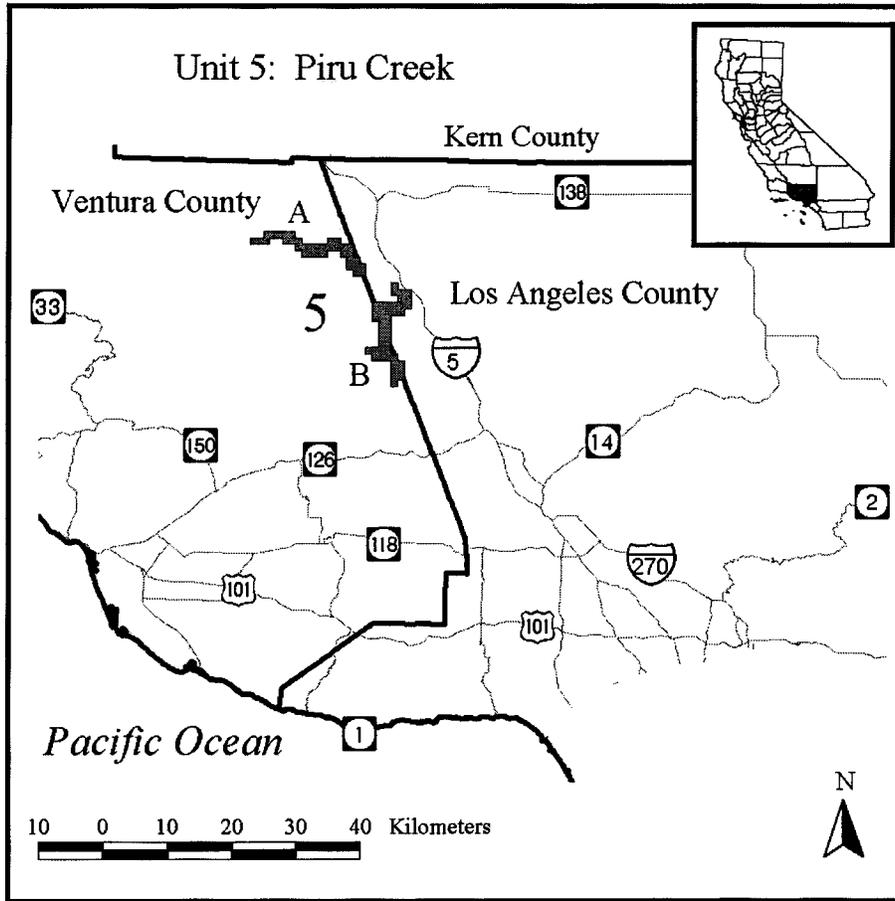
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Map Unit 4; Sespe Creek, Ventura County, California. From USGS 1:24,000 quadrangle maps Wheeler Springs, Lion Canyon, Topatopa Mts., and Devil's Heart Peak, the lands bounded by the following UTM coordinates (E,N):

292000,38290; 294000,3829000;
 294000,3828000; 293000,3828000;
 293000,3827000; 312000,3827000;
 312000,3828000; 320000,3828000;
 320000,3827000; 321000,3827000;
 321000,3826000; 319000,3826000;
 319000,3827000; 317000,3827000;

317000,3826000; 316000,3826000;
 316000,3827000; 315000,3827000;
 315000,3826000; 311000,3826000;
 311000,3825000; 291000,3825000;
 291000,3827000; 292000,3827000;
 292000,3829000.

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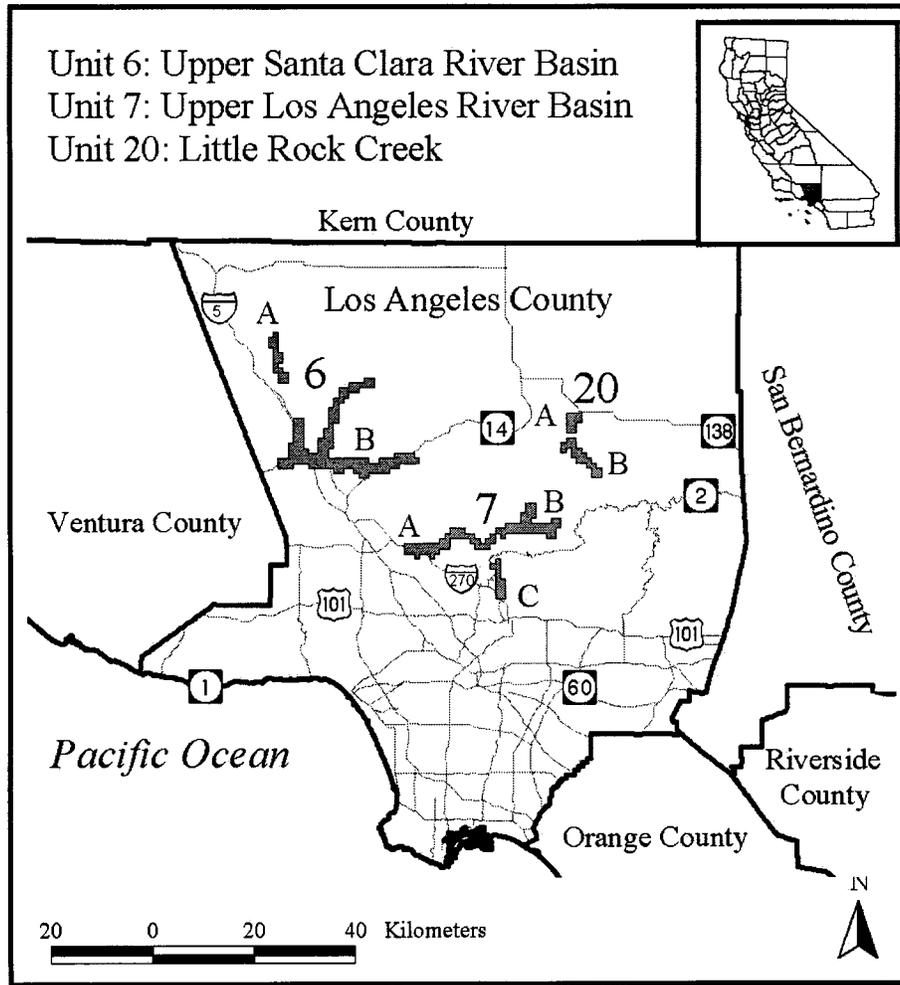
Map Unit 5; Piru Creek, Ventura and Los Angeles counties, California. Unit 5A: From USGS 1:24,000 quadrangle maps Lockwood Valley, Alamo Mtn., and Black Mtn., the lands upstream of Pyramid Lake bounded by the following UTM coordinates (E,N):

318000,3843000; 323000,3843000;
 323000,3842000; 324000,3842000;
 324000,3841000; 328000,3841000;
 328000,3842000; 330000,3842000;
 330000,3841000; 332000,3841000;
 332000,3839000; 333000,3839000;
 333000,3838000; 334000,3838000;
 334000,3836000; 332000,3836000;

332000,3837000; 331000,3837000;
 331000,3839000; 330000,3839000;
 330000,3840000; 328000,3840000;
 328000,3839000; 324000,3839000;
 324000,3840000; 323000,3840000;
 323000,3841000; 321000,3841000;
 321000,3842000; 319000,3842000;
 319000,3841000; 316000,3841000;
 316000,3842000; 318000,3842000;
 318000,3843000. Unit 5B: From USGS
 1:24,000 quadrangle maps Black Mtn.,
 Liebre Mtn., Whitaker Peak, and
 Cobblestone Mtn, the lands between
 Pyramid Lake and Lake Piru bounded
 by the following UTM coordinates (E,N):
 338000,3835000; 339000,3835000;

339000,3834000; 341000,3834000;
 341000,3831000; 340000,3831000;
 340000,3830000; 338000,3830000;
 338000,3824000; 339000,3824000;
 339000,3823000; 340000,3823000;
 340000,3820000; 339000,3820000;
 339000,3819000; 338000,3819000;
 338000,3823000; 335000,3823000;
 335000,3824000; 334000,3824000;
 334000,3825000; 336000,3825000;
 336000,3829000; 335000,3829000;
 335000,3832000; 339000,3832000;
 339000,3833000; 338000,3833000;
 338000,3835000.

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Map Unit 6; Upper Santa Clara River basin, Los Angeles County, California.
 Unit 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):
 347000,3836000; 348000,3836000;
 348000,3832000; 349000,3832000;
 349000,3830000; 348000,3830000;
 348000,3829000; 349000,3829000;
 349000,3828000; 350000,3828000;
 350000,3826000; 348000,3826000;
 348000,3828000; 347000,3828000;
 347000,3833000; 346000,3833000;
 346000,3835000; 347000,3835000;
 347000,3836000. Unit 6b: From USGS 1:24,000 quadrangle maps Warm Springs Mtn., Green Valley, Val Verde, Newhall, Mint Mtn. and Agua Dulce, the lands bounded by the following UTM coordinates (E,N):
 365000,3827000; 367000,3827000;
 367000,3825000; 364000,3825000;
 364000,3824000; 362000,3824000;
 362000,3823000; 361000,3823000;
 361000,3822000; 360000,3822000;

360000,3818000; 359000,3818000;
 359000,3813000; 358000,3813000;
 358000,3811000; 366000,3811000;
 366000,3810000; 368000,3810000;
 368000,3811000; 371000,3811000;
 371000,3812000; 375000,3812000;
 375000,3811000; 376000,3811000;
 376000,3810000; 372000,3810000;
 372000,3809000; 370000,3809000;
 370000,3808000; 366000,3808000;
 366000,3807000; 364000,3807000;
 364000,3808000; 363000,3808000;
 363000,3809000; 361000,3809000;
 361000,3808000; 359000,3808000;
 359000,3809000; 354000,3809000;
 354000,3810000; 351000,3810000;
 351000,3809000; 348000,3809000;
 348000,3811000; 350000,3811000;
 350000,3814000; 351000,3814000;
 351000,3819000; 353000,3819000;
 353000,3813000; 354000,3813000;
 354000,3812000; 356000,3812000;
 356000,3815000; 357000,3815000;
 357000,3817000; 358000,3817000;
 358000,3821000; 359000,3821000;
 359000,3823000; 360000,3823000;
 360000,3825000; 362000,3825000;

362000,3826000; 365000,3826000;
 365000,3827000.

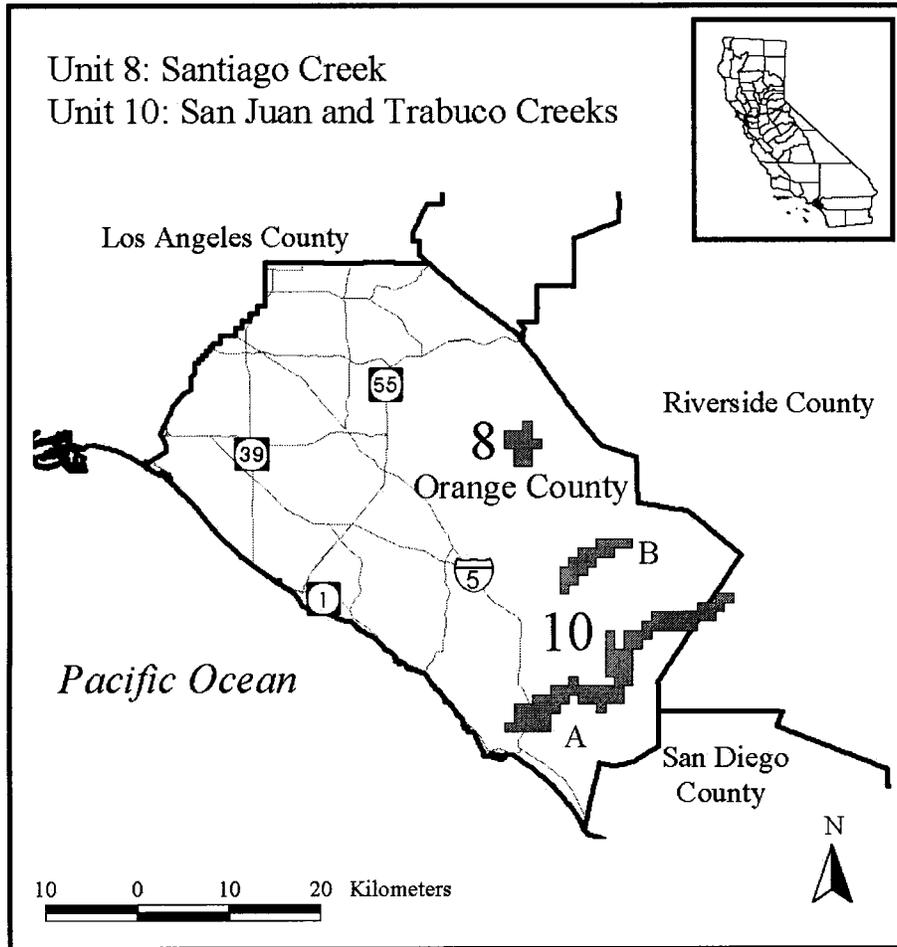
Map Unit 7; Upper Los Angeles River basin, Los Angeles County, California.
 Unit 7a: From USGS 1:24,000 quadrangle maps San Fernando, Sunland and Condor Peak, the lands in the Big Tujunga Creek basin bounded by the following UTM coordinates (E,N):
 382000,3797000; 385000,3797000;
 385000,3796000; 387000,3796000;
 387000,3795000; 388000,3795000;
 388000,3794000; 389000,3794000;
 389000,3795000; 390000,3795000;
 390000,3796000; 391000,3796000;
 391000,3794000; 390000,3794000;
 390000,3793000; 387000,3793000;
 387000,3794000; 386000,3794000;
 386000,3795000; 382000,3795000;
 382000,3793000; 380000,3793000;
 380000,3792000; 379000,3792000;
 379000,3791000; 378000,3791000;
 378000,3792000; 376000,3792000;
 376000,3791000; 375000,3791000;
 375000,3792000; 373000,3792000;
 373000,3794000; 380000,3794000;
 380000,3795000; 381000,3795000;
 381000,3796000; 382000,3796000;

382000,3797000. Unit 7b: From USGS 1:24,000 quadrangle maps Condor Peak and Chilao Flat, the lands bounded by the following UTM coordinates (E,N): 397000,3802000; 399000,3802000; 399000,3799000; 398000,3799000; 398000,3798000; 402000,3798000; 402000,3799000; 404000,3799000; 404000,3797000; 403000,3797000;

403000,3795000; 401000,3795000; 401000,3796000; 393000,3796000; 393000,3795000; 392000,3795000; 391000,3797000; 393000,3797000; 393000,3798000; 396000,3798000; 396000,3800000; 397000,3800000; 397000,3802000. Unit 7c: From USGS 1:24,000 quadrangle maps Condor Peak

and Pasadena, the lands bounded by the following UTM coordinates (E,N): 391000,3791000; 392000,3791000; 392000,3787000; 393000,3787000; 393000,3783000; 391000,3783000; 391000,3789000; 390000,3789000; 390000,3790000; 391000,3790000; 391000,3791000

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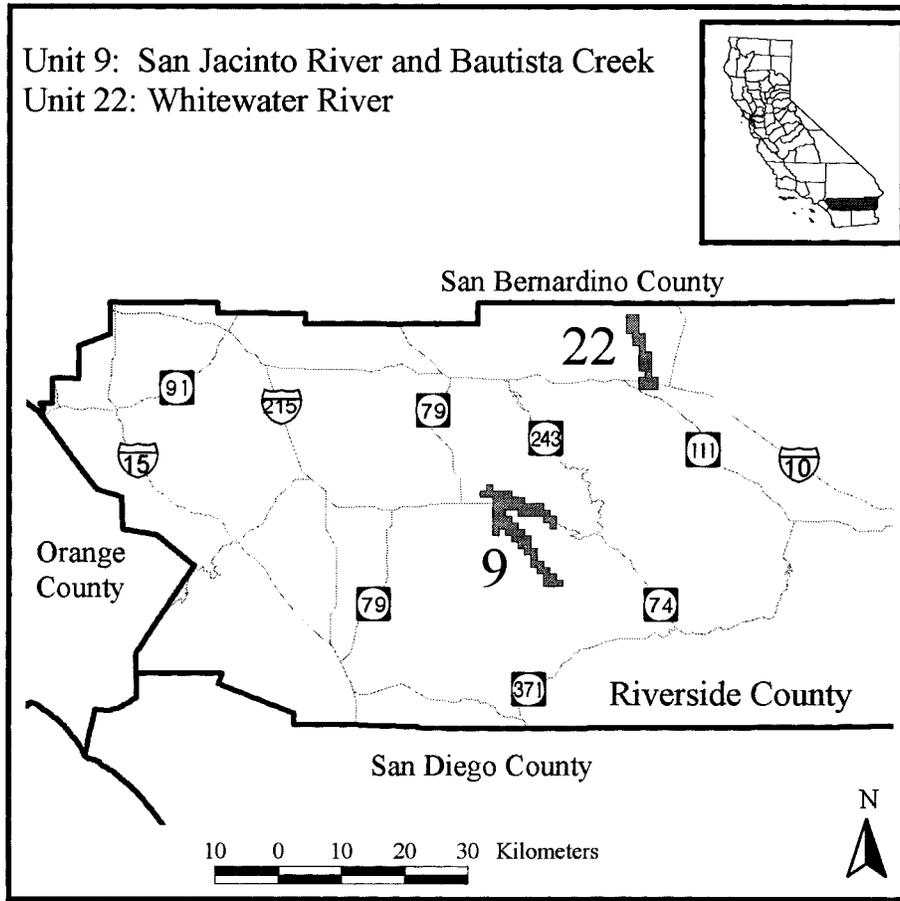
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Map Unit 8; Santiago Creek, Orange County. From USGS 1:24,000 quadrangle maps Black Star Canyon and El Toro, the lands bounded by the

following UTM coordinates (E,N): 438000,3739000; 439000,3739000; 439000,3737000; 440000,3737000; 440000,3736000; 439000,3736000; 439000,3734000; 437000,3734000;

437000,3736000; 436000,3736000; 436000,3738000; 438000,3738000; 438000,3739000.

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Map Unit 9; San Jacinto River and Bautista Creek, Riverside County. 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):
 508000,3737000; 509000,3737000;
 509000,3736000; 512000,3736000;
 512000,3735000; 514000,3735000;
 514000,3734000; 517000,3734000;
 517000,3733000; 518000,3733000;
 518000,3732000; 519000,3732000;
 519000,3730000; 518000,3730000;
 518000,3731000; 517000,3731000;
 517000,3732000; 513000,3732000;
 513000,3733000; 511000,3733000;
 511000,3732000; 512000,3732000;
 512000,3731000; 513000,3731000;
 513000,3730000; 514000,3730000;
 514000,3729000; 515000,3729000;
 515000,3727000; 516000,3727000;
 516000,3725000; 517000,3725000;
 517000,3724000; 518000,3724000;
 518000,3723000; 519000,3723000;
 519000,3722000; 520000,3722000;
 520000,3721000; 517000,3721000;
 517000,3723000; 516000,3723000;
 516000,3724000; 515000,3724000;
 515000,3726000; 514000,3726000;
 514000,3727000; 513000,3727000;

513000,3728000; 512000,3728000;
 512000,3729000; 511000,3729000;
 511000,3730000; 510000,3730000;
 510000,3729000; 509000,3729000;
 509000,3735000; 507000,3735000;
 507000,3736000; 508000,3736000;
 508000,3737000.

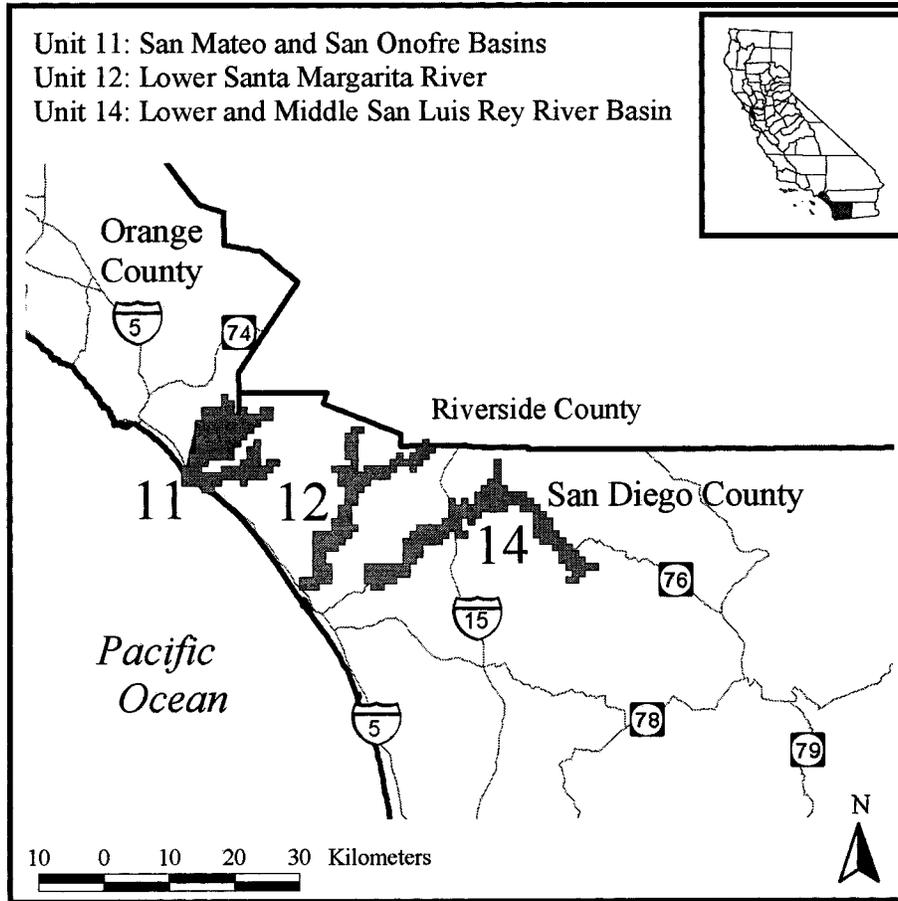
Map Unit 10; San Juan and Trabuco Creeks, Orange and Riverside counties, California.

Unit 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):
 459000,3720000; 461000,3720000;
 461000,3719000; 460000,3719000;
 460000,3718000; 459000,3718000;
 459000,3717000; 457000,3717000;
 457000,3716000; 452000,3716000;
 452000,3715000; 451000,3715000;
 451000,3714000; 450000,3714000;
 450000,3710000; 449000,3710000;
 449000,3708000; 447000,3708000;
 447000,3707000; 446000,3707000;
 446000,3708000; 444000,3708000;
 444000,3709000; 443000,3709000;
 443000,3708000; 442000,3708000;
 442000,3707000; 441000,3707000;
 441000,3705000; 436000,3705000;

436000,3706000; 437000,3706000;
 437000,3708000; 439000,3708000;
 439000,3709000; 441000,3709000;
 441000,3710000; 443000,3710000;
 443000,3711000; 444000,3711000;
 444000,3710000; 448000,3710000;
 448000,3711000; 447000,3711000;
 447000,3716000; 448000,3716000;
 448000,3714000; 449000,3714000;
 449000,3716000; 451000,3716000;
 451000,3717000; 452000,3717000;
 452000,3718000; 457000,3718000;
 457000,3719000; 459000,3719000;
 459000,3720000.

Unit 10b: From USGS 1:24,000 quadrangle maps Santiago Peak and Canada Gobernadora, the lands bounded by the following UTM coordinates (E,N):
 446000,3726000; 450000,3726000;
 450000,3725000; 448000,3725000;
 448000,3724000; 446000,3724000;
 446000,3723000; 445000,3723000;
 445000,3722000; 444000,3722000;
 444000,3721000; 443000,3721000;
 443000,3720000; 442000,3720000;
 442000,3723000; 443000,3723000;
 443000,3724000; 444000,3724000;
 444000,3725000; 446000,3725000;
 446000,3726000.

FILLING CODE 4310-55-P



BILLING CODE 4310-55-C

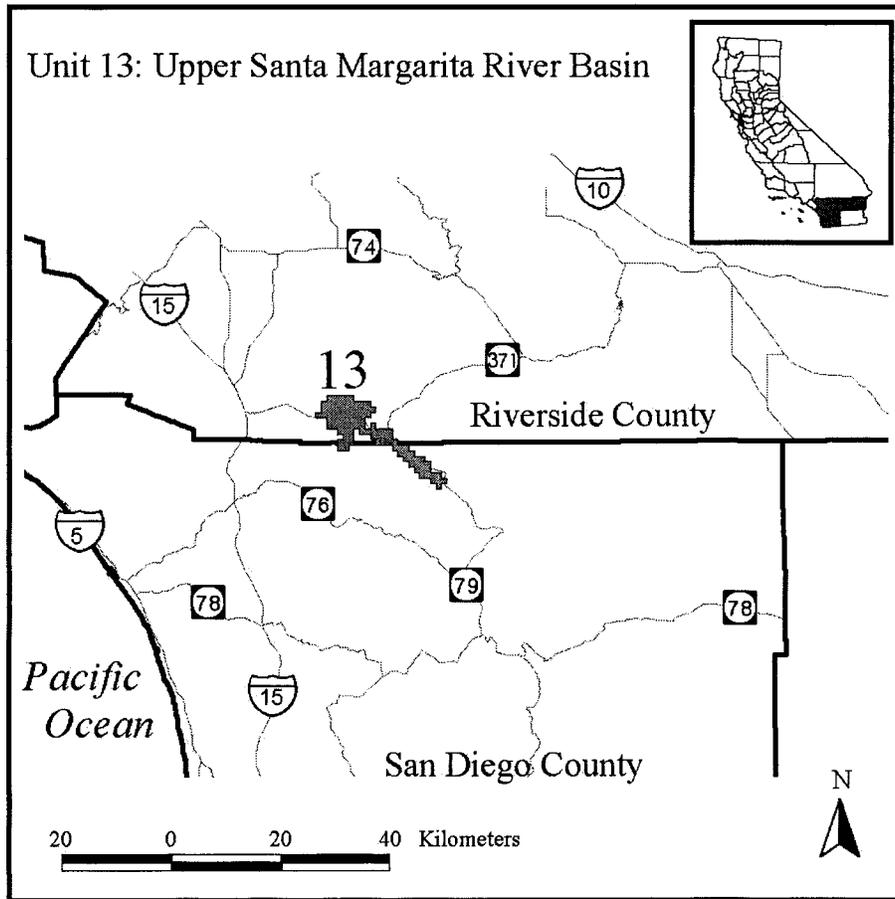
Map Unit 11; San Mateo and San Onofre Basins, Orange and Riverside counties, California. From USGS 1:24,000 quadrangle maps San Clemente, Margarita Peak, Canada Gobernadora and San Onofre Bluff, the lands bounded by the following UTM coordinates (E,N): 450000,3707000; 451000,3707000; 451000,3706000; 452000,3706000; 452000,3704000; 453000,3704000; 453000,3705000; 454000,3705000; 454000,3704000; 456000,3704000; 456000,3705000; 458000,3705000; 458000,3703000; 456000,3703000; 455000,3702000; 455000,3701000; 454000,3701000; 454000,3700000; 453000,3700000; 453000,3699000; 452000,3699000; 452000,3697000; 448000,3697000; 448000,3696000; 447000,3696000; 447000,3695000; 450000,3695000; 450000,3696000; 453000,3696000; 453000,3697000; 454000,3697000; 454000,3699000; 455000,3699000; 455000,3700000; 456000,3700000; 456000,3696000; 457000,3696000; 457000,3697000; 459000,3697000; 459000,3696000; 458000,3696000; 458000,3695000; 457000,3695000; 457000,3694000;

454000,3694000; 454000,3693000; 453000,3693000; 453000,3694000; 450000,3694000; 450000,3693000; 449000,3693000; 449000,3692000; 447000,3692000; 447000,3693000; 444000,3693000; 444000,3696000; 445000,3696000; 445000,3698000; 446000,3698000; 446000,3703000; 447000,3703000; 447000,3705000; 450000,3705000; 450000,3707000.

Map Unit 12; Lower Santa Margarita Basin, San Diego County, California. From USGS 1:24,000 quadrangle maps Fallbrook, Temecula, Morro Hill, Las Pulgas Canyon, Oceanside and San Luis Rey, the lands bounded by the following UTM coordinates (E,N): 470000,3702000; 472000,3702000; 472000,3701000; 471000,3701000; 471000,3695000; 472000,3695000; 472000,3696000; 476000,3696000; 476000,3697000; 477000,3697000; 477000,3698000; 478000,3698000; 478000,3697000; 479000,3697000; 479000,3698000; 480000,3698000; 480000,3699000; 481000,3699000; 481000,3700000; 482000,3700000; 482000,3699000; 483000,3699000; 483000,3698000; 482000,3698000; 482000,3697000; 481000,3697000;

481000,3696000; 480000,3696000; 480000,3695000; 479000,3695000; 479000,3696000; 477000,3696000; 477000,3695000; 476000,3695000; 476000,3694000; 473000,3694000; 473000,3693000; 472000,3693000; 472000,3692000; 471000,3692000; 471000,3690000; 470000,3690000; 470000,3687000; 471000,3687000; 471000,3686000; 470000,3686000; 470000,3685000; 469000,3685000; 469000,3684000; 468000,3684000; 468000,3683000; 466000,3683000; 466000,3681000; 467000,3681000; 467000,3678000; 465000,3678000; 465000,3677000; 462000,3677000; 462000,3679000; 464000,3679000; 464000,3686000; 467000,3686000; 467000,3688000; 468000,3688000; 468000,3690000; 469000,3690000; 469000,3693000; 468000,3693000; 468000,3695000; 467000,3695000; 467000,3696000; 470000,3696000; 470000,3697000; 469000,3697000; 469000,3701000; 470000,3701000; 470000,3702000.

BILLING CODE 4310-55-P



BILLING CODE 4310-55-C

Map Unit 13; Upper Santa Margarita Basin, San Diego County, California. From USGS 1:24,000 quadrangle maps Sage, Vail Lake, Aquanga, Palomar Observatory and Warner Springs, the lands bounded by the following UTM coordinates (E,N): 502000,3707000; 507000,3707000; 507000,3706000; 510000,3706000; 510000,3705000; 511000,3705000; 511000,3704000; 510000,3704000; 510000,3703000; 509000,3703000; 509000,3701000; 510000,3701000; 510000,3702000; 511000,3702000; 511000,3701000; 514000,3701000; 514000,3699000; 515000,3699000; 515000,3698000; 517000,3698000; 517000,3697000; 518000,3697000; 518000,3696000; 520000,3696000; 520000,3695000; 521000,3695000; 521000,3693000; 523000,3693000; 523000,3692000; 524000,3692000; 524000,3691000; 523000,3691000; 523000,3690000; 522000,3690000; 522000,3691000; 521000,3691000; 521000,3692000; 519000,3692000; 519000,3693000; 518000,3693000; 518000,3694000; 517000,3694000; 517000,3695000; 516000,3695000; 516000,3696000; 515000,3696000; 515000,3697000;

514000,3697000; 514000,3698000; 511000,3698000; 511000,3699000; 510000,3699000; 510000,3700000; 508000,3700000; 508000,3701000; 507000,3701000; 507000,3698000; 506000,3698000; 506000,3697000; 504000,3697000; 504000,3699000; 505000,3699000; 505000,3700000; 504000,3700000; 504000,3701000; 502000,3701000; 502000,3703000; 500000,3703000; 500000,3704000; 501000,3704000; 501000,3706000; 502000,3706000; 502000,3707000.

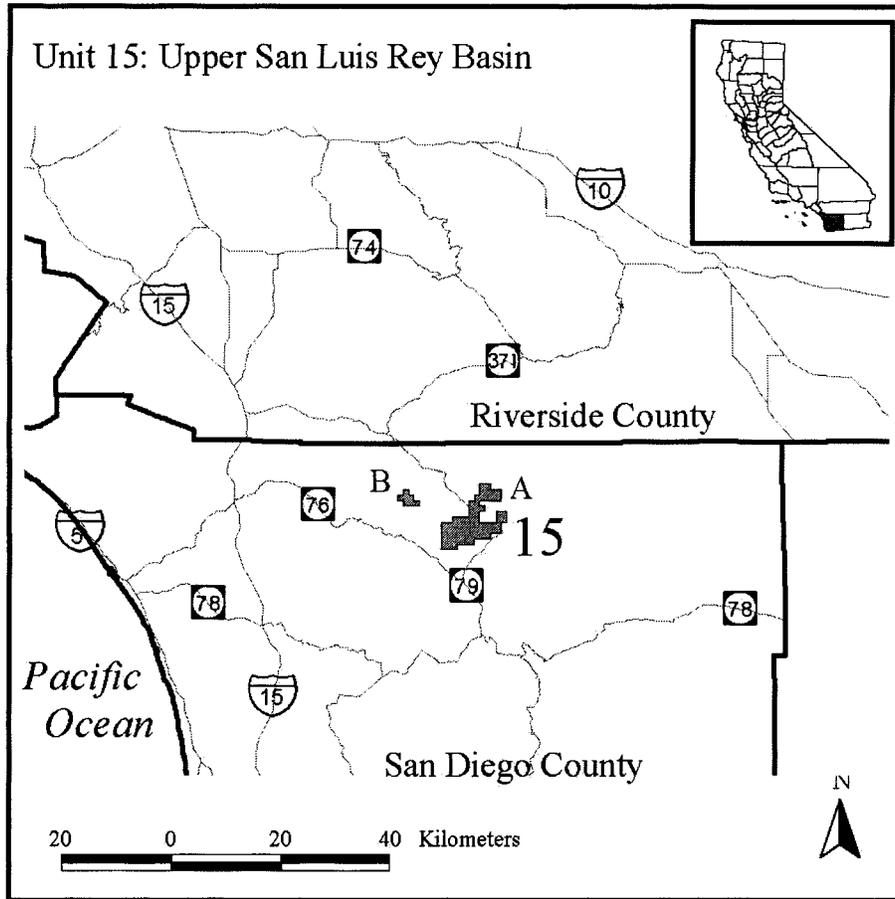
Map Unit 14; Lower and Middle San Luis Rey Basin, San Diego County, California. From USGS 1:24,000 quadrangle maps Pechanga, San Luis Rey, Morro Hill, Bonsall, Pala, Boucher Hill and Rodriguez Mtn., the lands bounded by the following UTM coordinates (E,N): 492000,3697000; 493000,3697000; 493000,3693000; 494000,3693000; 494000,3692000; 497000,3692000; 497000,3691000; 498000,3691000; 498000,3690000; 499000,3690000; 499000,3689000; 500000,3689000; 500000,3688000; 501000,3688000; 501000,3686000; 502000,3686000; 502000,3685000; 503000,3685000; 503000,3684000; 504000,3684000; 504000,3683000;

505000,3683000; 505000,3682000; 506000,3682000; 506000,3681000; 508000,3681000; 508000,3680000; 506000,3680000; 506000,3679000; 505000,3679000; 505000,3678000; 503000,3678000; 503000,3679000; 504000,3679000; 504000,3680000; 503000,3680000; 503000,3681000; 502000,3681000; 502000,3683000; 501000,3683000; 501000,3684000; 499000,3684000; 499000,3685000; 498000,3685000; 498000,3689000; 496000,3689000; 496000,3690000; 494000,3690000; 494000,3689000; 490000,3689000; 490000,3688000; 489000,3688000; 489000,3687000; 488000,3687000; 488000,3688000; 487000,3688000; 487000,3686000; 488000,3686000; 488000,3685000; 486000,3685000; 486000,3686000; 485000,3686000; 485000,3685000; 484000,3685000; 484000,3684000; 481000,3684000; 481000,3682000; 480000,3682000; 480000,3681000; 479000,3681000; 479000,3679000; 477000,3679000; 477000,3678000; 475000,3678000; 475000,3677000; 473000,3677000; 473000,3678000; 472000,3678000; 472000,3681000; 478000,3681000; 478000,3685000; 479000,3685000; 479000,3686000;

480000,3686000; 480000,3687000;
 484000,3687000; 484000,3688000;
 485000,3688000; 485000,3691000;
 486000,3691000; 486000,3690000;

487000,3690000; 487000,3691000;
 488000,3691000; 488000,3690000;
 489000,3690000; 489000,3692000;
 490000,3692000; 490000,3693000;

491000,3693000; 491000,3694000;
 492000,3694000; 492000,3697000.
BILLING CODE 4310-55-P



BILLING CODE 4310-55-C

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

Unit 15a: From USGS 1:24,000 quadrangle maps Palomar Observatory, Warner Springs and Hot Springs Mtn., the lands bounded by the following UTM coordinates (E,N):

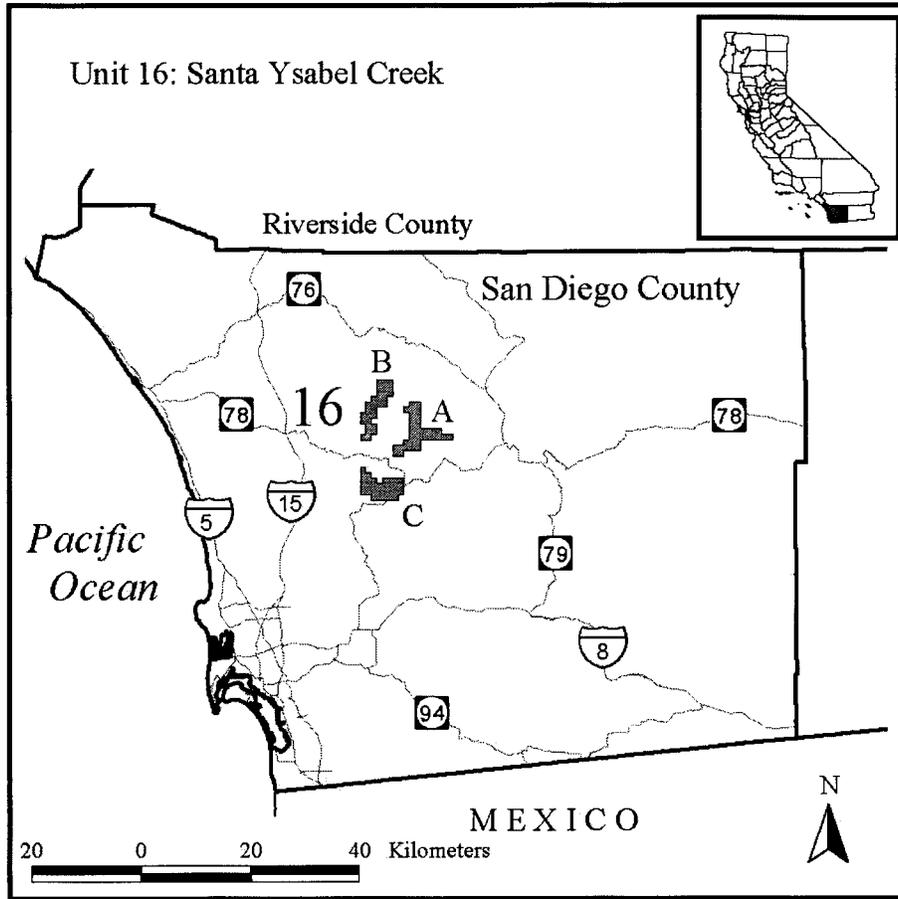
530000,3691000; 532000,3691000;
 532000,3690000; 534000,3690000;
 534000,3688000; 530000,3688000;
 530000,3687000; 531000,3687000;
 531000,3686000; 530000,3686000;

533000,3684000; 533000,3684000;
 533000,3686000; 535000,3686000;
 535000,3684000; 534000,3684000;
 534000,3682000; 532000,3682000;
 532000,3681000; 529000,3681000;
 529000,3680000; 526000,3680000;
 526000,3679000; 523000,3679000;
 523000,3684000; 525000,3684000;
 525000,3685000; 528000,3685000;
 528000,3688000; 529000,3688000;
 529000,3689000; 530000,3689000;
 530000,3691000.

Unit 15b: From USGS 1:24,000 quadrangle map Palomar Observatory, the lands bounded by the following UTM coordinates (E,N):

516000,3690000; 517000,3690000;
 517000,3689000; 518000,3689000;
 518000,3688000; 519000,3688000;
 519000,3687000; 516000,3687000;
 516000,3688000; 515000,3688000;
 515000,3689000; 516000,3689000;
 516000,3690000.

BILLING CODE 4310-55-C



BILLING CODE 4310-55-C

Map Unit 16; Santa Ysabel Creek, San Diego County, California.

Unit 16a: From USGS 1:24,000 quadrangle maps Mesa Grande, Ramona and San Pasqual, the lands bounded by the following UTM coordinates (E,N):
 513000,3671000; 515000,3671000;
 515000,3666000; 519000,3666000;
 519000,3665000; 521000,3665000;
 521000,3664000; 515000,3664000;
 515000,3662000; 512000,3662000;
 512000,3661000; 510000,3661000;
 510000,3663000; 512000,3663000;
 512000,3664000; 513000,3664000;
 513000,3669000; 512000,3669000;

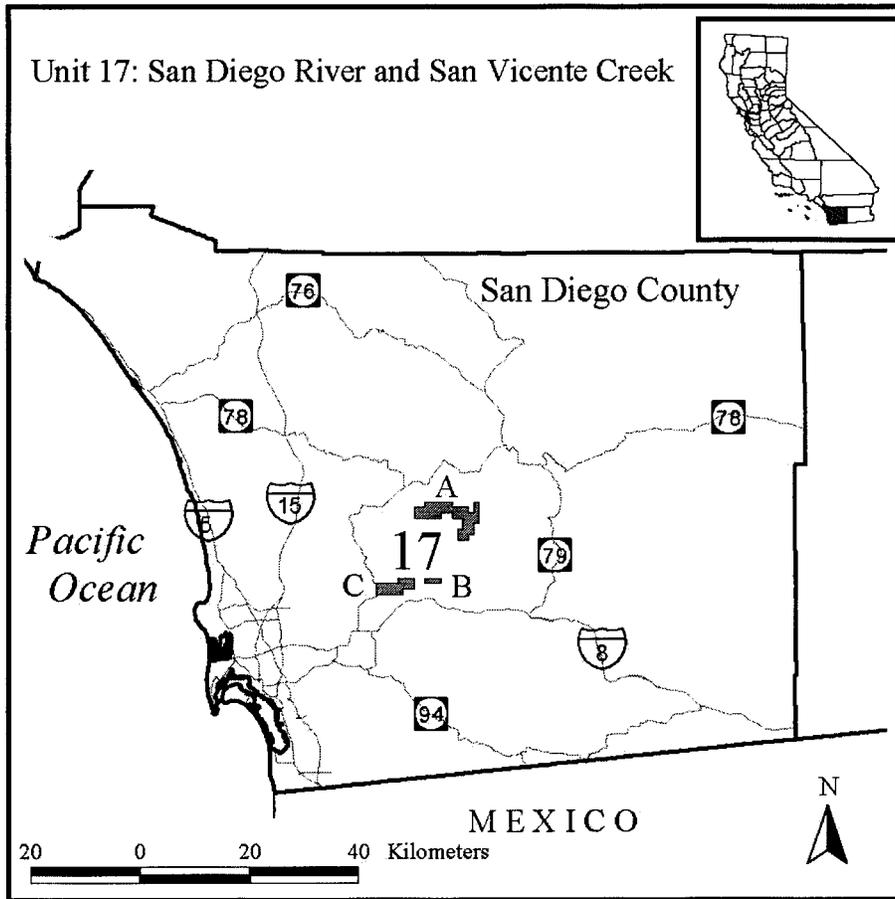
512000,3670000; 513000,3670000;
 513000,3671000.

Unit 16b: From USGS 1:24,000 quadrangle maps Rodriguez Mtn. and San Pasqual, the lands bounded by the following UTM coordinates (E,N):
 507000,3675000; 510000,3675000;
 510000,3672000; 509000,3672000;
 509000,3670000; 507000,3670000;
 507000,3668000; 506000,3668000;
 506000,3667000; 507000,3667000;
 507000,3665000; 506000,3665000;
 506000,3664000; 504000,3664000;
 504000,3665000; 505000,3665000;
 505000,3667000; 504000,3667000;
 504000,3669000; 505000,3669000;
 504000,3671000; 506000,3671000;

506000,3672000; 507000,3672000;
 507000,3675000.

Unit 16c: From USGS 1:24,000 quadrangle maps Ramona and San Pasqual, the lands bounded by the following UTM coordinates (E,N):
 504000,3659000; 505000,3659000;
 505000,3658000; 506000,3658000;
 506000,3657000; 507000,3657000;
 507000,3656000; 508000,3656000;
 508000,3657000; 512000,3657000;
 512000,3654000; 511000,3654000;
 511000,3653000; 506000,3653000;
 506000,3654000; 504000,3654000;
 504000,3659000.

BILLING CODE 4310-55-P



BILLING CODE 4310-55-C

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

Unit 17a: From USGS 1:24,000 quadrangle maps Ramona, El Cajon, Tule Springs and Santa Ysabel, the lands bounded by the following UTM coordinates (E,N): 516000,3653000; 521000,3653000; 521000,3652000; 524000,3652000; 524000,3651000; 525000,3651000; 525000,3653000; 526000,3653000; 526000,3649000;

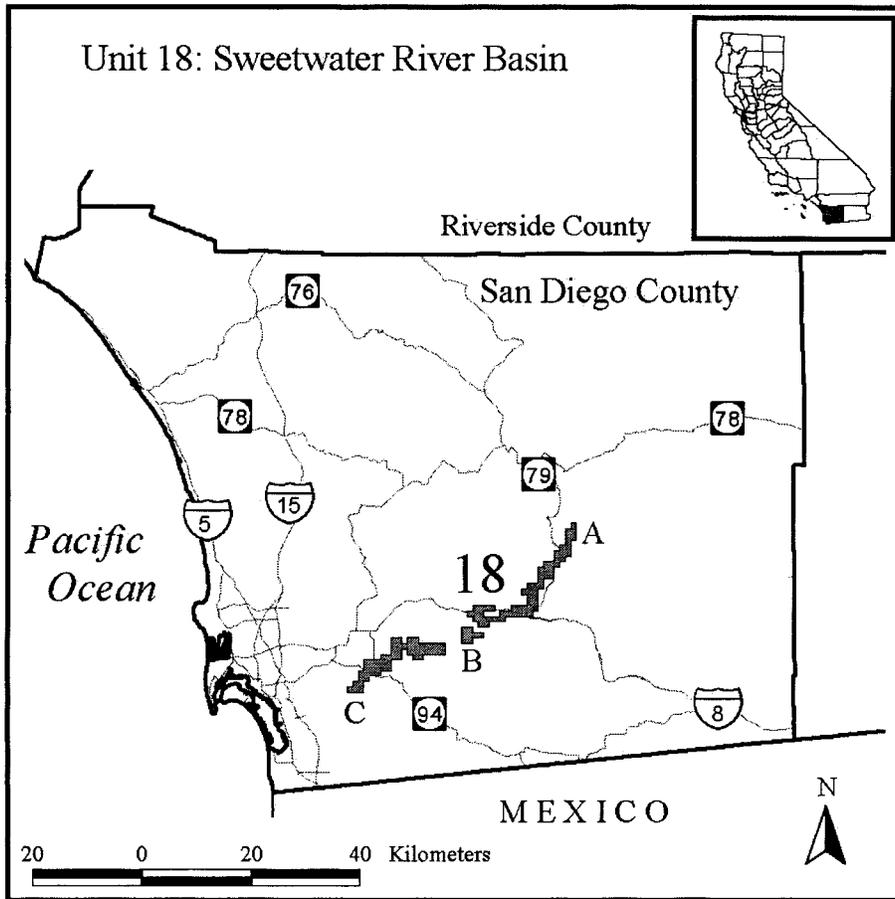
525000,3649000; 525000,3647000; 524000,3647000; 524000,3646000; 522000,3646000; 522000,3648000; 523000,3648000; 523000,3650000; 521000,3650000; 521000,3651000; 519000,3651000; 519000,3650000; 514000,3650000; 514000,3652000; 516000,3652000; 516000,3653000.

Unit 17b: From USGS 1:24,000 quadrangle map El Cajon Mtn., the lands bounded by the following UTM coordinates (E,N): 516000,3639000;

519000,3639000; 519000,3638000; 516000,3638000; 516000,3639000.

Unit 17c: From USGS 1:24,000 quadrangle maps San Vicente Reservoir, El Cajon, Alpine and El Cajon Mtn., the lands bounded by the following UTM coordinates (E,N): 511000,3639000; 514000,3639000; 514000,3637000; 512000,3637000; 512000,3636000; 507000,3636000; 507000,3638000; 511000,3638000; 511000,3639000.

BILLING CODE 4310-55-P



BILING CODE 4310-55-C

Map Unit 18; Sweetwater River, San Diego County, California. Unit 18a: From USGS 1:24,000 quadrangle maps Viejas Mountain (1988), Descanso (1960), Tule Springs (1988), and Cuyamaca Peak (1960), California. The lands bounded by the following UTM coordinates (E, N): 543000,3649000; 544000,3649000; 544000,3646000; 543000,3646000; 543000,3643000; 542000,3643000; 542000,3642000; 541000,3642000; 541000,3641000; 540000,3641000; 540000,3639000; 538000,3639000; 538000,3637000; 537000,3637000; 537000,3633000; 536000,3633000; 536000,3632000; 531000,3632000; 531000,3631000; 528000,3631000; 528000,3630000; 526000,3630000; 526000,3631000; 525000,3631000; 525000,3632000; 524000,3632000; 524000,3633000; 525000,3633000; 525000,3634000; 529000,3634000; 529000,3633000;

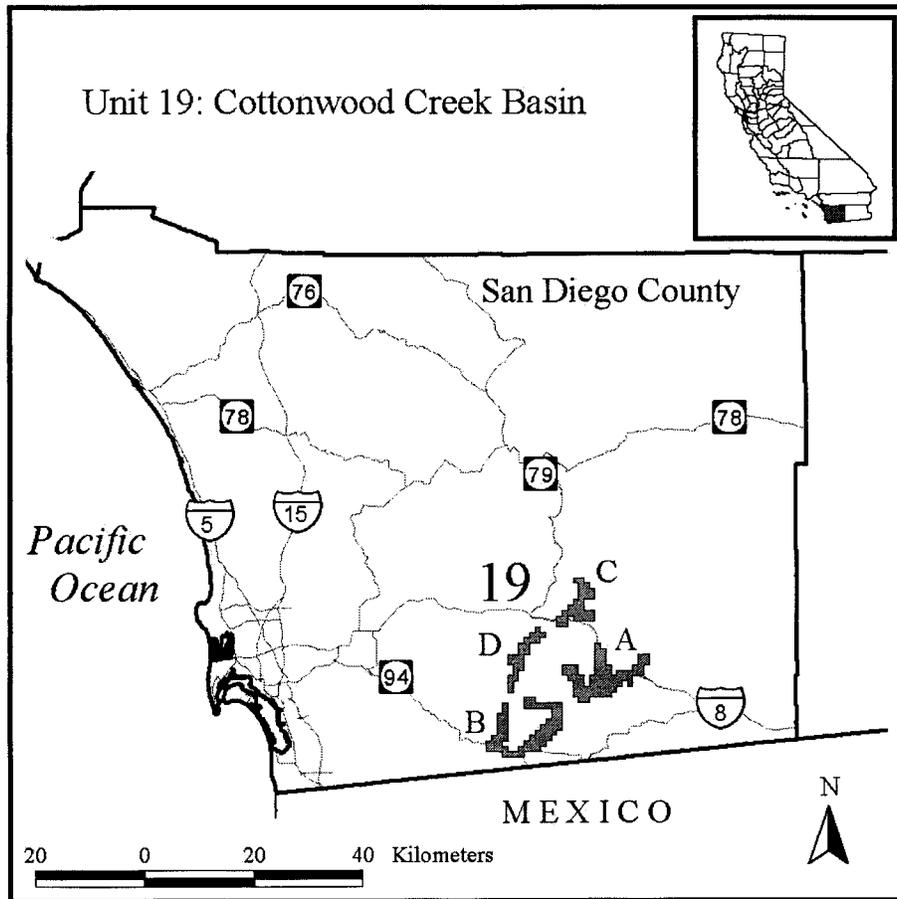
527000,3633000; 527000,3632000; 530000,3632000; 530000,3633000; 532000,3633000; 532000,3634000; 535000,3634000; 535000,3636000; 534000,3636000; 534000,3637000; 535000,3637000; 535000,3638000; 537000,3638000; 537000,3641000; 538000,3641000; 538000,3642000; 540000,3642000; 540000,3644000; 541000,3644000; 541000,3645000; 542000,3645000; 542000,3648000; 543000,3648000; 543000,3649000.

Map Unit 18b: From USGS 1:24,000 quadrangle maps Viejas Mountain (1988), and Alpine (1982), California. The lands bounded by the following UTM coordinates (E, N): 523000,3630000; 525000,3630000; 525000,3629000; 527000,3629000; 527000,3628000; 525000,3628000; 525000,3627000; 523000,3627000; 523000,3630000.

Map Unit 18c: From USGS 1:24,000 quadrangle maps Jamul Mountains

(1971), El Cajon (1967), and Alpine (1982), California. The lands bounded by the following UTM coordinates (E, N): 510000,3628000; 512000,3628000; 512000,3627000; 513000,3627000; 513000,3628000; 515000,3628000; 515000,3627000; 520000,3627000; 520000,3625000; 516000,3625000; 516000,3624000; 514000,3624000; 514000,3625000; 513000,3625000; 513000,3626000; 512000,3626000; 512000,3624000; 510000,3624000; 510000,3622000; 508000,3622000; 508000,3621000; 506000,3621000; 506000,3620000; 505000,3620000; 505000,3618000; 502000,3618000; 502000,3619000; 503000,3619000; 503000,3620000; 504000,3620000; 504000,3622000; 505000,3622000; 505000,3624000; 508000,3624000; 508000,3625000; 510000,3625000; 510000,3628000.

BILING CODE 4310-55-P



BILLING CODE 4310-55-C

Map Unit 19; Cottonwood-Tijuana Basin, San Diego County, California.
 Unit 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; 548000,3627000;
 548000,3626000; 549000,3626000;
 549000,3623000; 550000,3623000;
 550000,3621000; 551000,3621000;
 551000,3622000; 554000,3622000;
 554000,3623000; 555000,3623000;
 555000,3625000; 557000,3625000;
 557000,3623000; 556000,3623000;
 556000,3621000; 554000,3621000;
 554000,3619000; 553000,3619000;
 553000,3620000; 552000,3620000;
 552000,3619000; 551000,3619000;
 551000,3618000; 550000,3618000;
 550000,3617000; 546000,3617000;
 546000,3616000; 544000,3616000;
 544000,3617000; 543000,3617000;
 543000,3620000; 542000,3620000;
 542000,3621000; 541000,3621000;
 541000,3623000; 544000,3623000;
 544000,3621000; 545000,3621000;
 545000,3619000; 546000,3619000;
 546000,3621000; 547000,3621000;
 547000,3627000.

Unit 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): 534000,3617000; 536000,3617000; 536000,3616000; 541000,3616000; 541000,3611000; 540000,3611000; 540000,3610000; 539000,3610000; 539000,3609000; 538000,3609000; 538000,3608000; 537000,3608000; 537000,3607000; 534000,3607000; 534000,3606000; 530000,3606000; 530000,3607000; 527000,3607000; 527000,3609000; 528000,3609000; 528000,3610000; 529000,3610000; 529000,3614000; 530000,3614000; 530000,3616000; 531000,3616000; 531000,3609000; 530000,3609000; 530000,3608000; 531000,3608000; 531000,3607000; 533000,3607000; 533000,3608000; 534000,3608000; 534000,3609000; 535000,3609000; 535000,3610000; 536000,3610000; 536000,3611000; 537000,3611000; 537000,3612000; 538000,3612000; 538000,3613000; 539000,3613000; 539000,3615000; 534000,3615000; 534000,3617000.
 Unit 19c: From USGS 1:24,000 quadrangle maps Descanso, Cuyamaca Peak and Mount Laguna, the lands

bounded by the following UTM coordinates (E,N): 543000,3639000; 545000,3639000; 545000,3638000; 546000,3638000; 546000,3637000; 547000,3637000; 547000,3635000; 545000,3635000; 545000,3633000; 547000,3633000; 547000,3631000; 543000,3631000; 543000,3632000; 542000,3632000; 542000,3630000; 540000,3630000; 540000,3632000; 541000,3632000; 541000,3633000; 542000,3633000; 542000,3634000; 543000,3634000; 543000,3635000; 544000,3635000; 544000,3638000; 543000,3638000; 543000,3639000.
 Unit 19d: From USGS 1:24,000 quadrangle maps Barrett Lake, Viejas Mtn. and Descanso, the lands bounded by the following UTM coordinates (E,N): 536000,3630000; 537000,3630000; 537000,3629000; 538000,3629000; 538000,3628000; 537000,3628000; 537000,3627000; 535000,3627000; 535000,3625000; 534000,3625000; 534000,3622000; 533000,3622000; 533000,3620000; 532000,3620000; 532000,3618000; 531000,3618000; 531000,3621000; 532000,3621000; 532000,3623000; 531000,3623000; 531000,3625000; 533000,3625000; 533000,3627000; 534000,3627000;

534000,3628000; 535000,3628000;
535000,3629000; 536000,3629000;
536000,3630000.

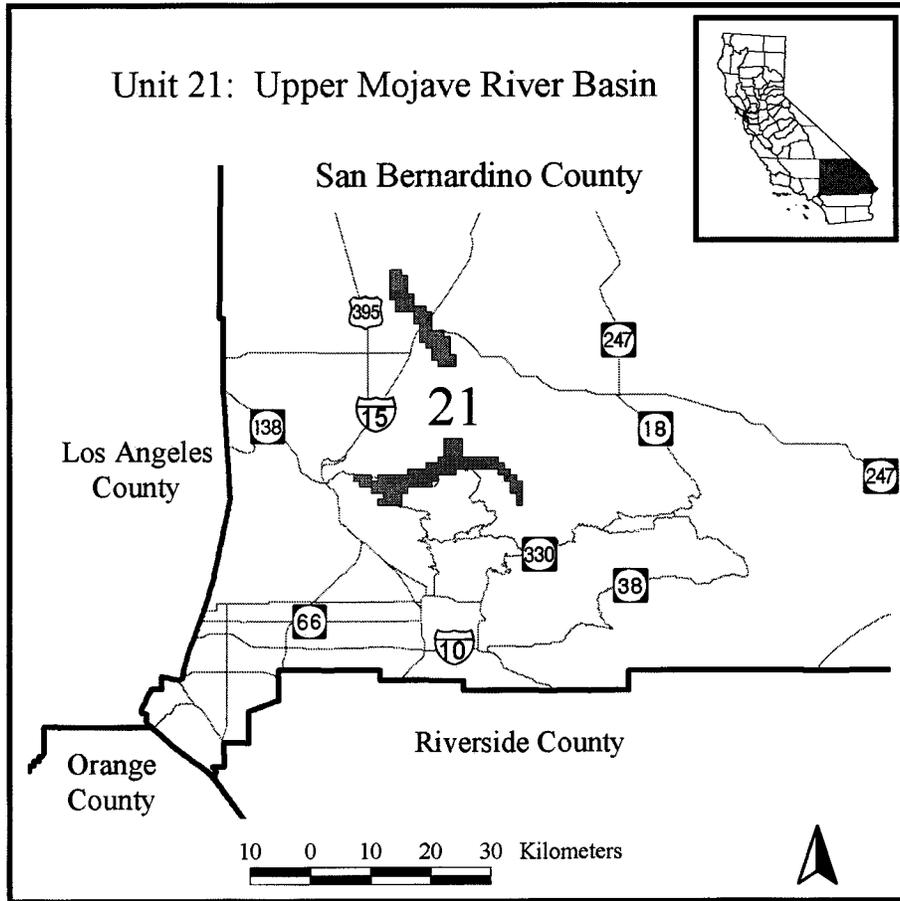
Map Unit 20 (see map of Units 6, 7, and 20); Little Rock Creek, Los Angeles County, California. Unit 20a: From USGS 1:24,000 quadrangle maps Palmdale and Pacifico Mtn., the lands bounded by the following UTM coordinates (E,N): 405000,3820000; 408000,3820000; 408000,3818000;

407000,3818000; 407000,3816000;
405000,3816000; 405000,3820000.

Unit 20b: From USGS 1:24,000 quadrangle maps Pacifico Mtn. and Juniper Hills, the lands bounded by the following UTM coordinates (E,N): 405000,3815000; 407000,3815000; 407000,3813000; 408000,3813000; 408000,3812000; 409000,3812000; 409000,3811000; 410000,3811000; 410000,3810000; 411000,3810000;

411000,3809000; 412000,3809000;
412000,3807000; 410000,3807000;
410000,3809000; 409000,3809000;
409000,3810000; 407000,3810000;
407000,3811000; 406000,3811000;
406000,3813000; 405000,3813000;
405000,3812000; 404000,3812000;
404000,3814000; 405000,3814000;
405000,3815000.

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BILLING CODE 4310-55-C

Map Unit 21; Mojave River, San Bernardino County, California. Unit 21a: From USGS 1:24,000 quadrangle maps Cajon, Silverwood Lake, Hesperia, Apple Valley, Lake Arrowhead and Butler Peak, the lands bounded by the following UTM coordinates (E,N): 476000,3804000; 479000,3804000; 479000,3801000; 485000,3801000; 485000,3800000; 486000,3800000; 486000,3799000; 487000,3799000; 487000,3798000; 488000,3798000; 488000,3797000; 489000,3797000; 489000,3793000; 488000,3793000; 488000,3795000; 487000,3795000; 487000,3797000; 486000,3797000; 486000,3798000; 485000,3798000; 485000,3799000; 478000,3799000;

478000,3798000; 475000,3798000;
475000,3797000; 474000,3797000;
474000,3796000; 470000,3796000;
470000,3795000; 469000,3795000;
469000,3793000; 465000,3793000;
465000,3794000; 466000,3794000;
466000,3795000; 464000,3795000;
464000,3796000; 462000,3796000;
462000,3797000; 461000,3797000;
461000,3798000; 464000,3798000;
464000,3797000; 465000,3797000;
465000,3798000; 470000,3798000;
470000,3799000; 473000,3799000;
473000,3800000; 475000,3800000;
475000,3801000; 476000,3801000;
476000,3804000. Unit 21b: From USGS 1:24,000 quadrangle maps Victorville, Hesperia, Apple Valley North and Apple Valley South, the lands bounded

by the following UTM coordinates (E,N): 467000,3832000; 469000,3832000;
469000,3831000; 470000,3831000;
470000,3828000; 471000,3828000;
471000,3826000; 473000,3826000;
473000,3825000; 474000,3825000;
474000,3822000; 476000,3822000;
476000,3821000; 477000,3821000;
477000,3818000; 478000,3818000;
478000,3816000; 475000,3816000;
475000,3817000; 474000,3817000;
474000,3819000; 473000,3819000;
473000,3820000; 472000,3820000;
472000,3823000; 471000,3823000;
471000,3825000; 468000,3825000;
468000,3827000; 467000,3827000;
467000,3832000.

Map Unit 22 (see map of Units 9 and 22); Whitewater River, Riverside

County, California. From USGS 1:24,000 quadrangle maps Catclaw Flat, White Water and Desert Hot Springs, the lands bounded by the following UTM coordinates (E,N): 530000,3764000; 532000,3764000; 532000,3761000; 533000,3761000; 533000,3758000; 534000,3758000; 534000,3754000;

535000,3754000; 535000,3752000; 532000,3752000; 532000,3754000; 533000,3754000; 533000,3755000; 532000,3755000; 532000,3759000; 531000,3759000; 531000,3761000; 530000,3761000; 530000,3764000.
* * * * *

Dated: May 25, 2000.

Donald J. Barry,
Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 00-14085 Filed 6-7-00; 8:45 am]

BILLING CODE 4310-55-P