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Dated: November 19, 2009.

Thomas L. Strickland,

Assistant Secretary for Fish and Wildlife and Parks.

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DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17**

[FWS-R8-ES-2009-0072]

[92210-1117-0000-B4]

[RIN 1018-AW23]

Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Santa Ana Sucker (*Catostomus santaanae*); Proposed Rule**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to revise the designated critical habitat for the Santa Ana sucker (*Catostomus santaanae*). The areas identified in this proposed rule constitute a revision of the areas designated as critical habitat for the Santa Ana sucker on January 4, 2005. In the 2005 final rule, we designated 8,305 ac (3,361 ha) of critical habitat in Los Angeles County. Approximately 9,605 acres (ac) (3,887 hectares (ha)) of habitat in the Santa Ana River (San Bernardino, Riverside, and Orange Counties) and the San Gabriel River and Big Tujunga Creek (Los Angeles County) in southern California fall within the boundaries of the proposed revised critical habitat designation.

DATES: We will consider comments we receive on or before February 8, 2010. We must receive requests for public hearings, in writing, at the address shown in the **FOR FURTHER INFORMATION CONTACT** section by January 25, 2010.

ADDRESSES: You may submit comments by one of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments to Docket No. FWS-R8-ES-2009-0072.

- U.S. mail or hand-delivery: Public Comments Processing, Attn: FWS-R8-ES-2009-0072; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will post all comments on <http://www.regulations.gov>. This generally

means that we will post any personal information you provide us (see the **Public Comments** section below for more information).

FOR FURTHER INFORMATION CONTACT: Jim Bartel, Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Suite 101, Carlsbad, CA 92011; telephone (760) 431-9440; facsimile (760) 431-5901. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at (800) 877-8339.

SUPPLEMENTARY INFORMATION:**Public Comments**

We intend any final action resulting from this proposal to be as accurate and as effective as possible. Therefore, we request comments or suggestions on this proposed rule. We particularly seek comments concerning:

(1) The reasons we should or should not revise the designation of habitat as "critical habitat" under section 4 of the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 *et seq.*), including whether the benefit of designation would outweigh any threats to the species caused by the designation, such that the designation of critical habitat is prudent.

(2) Specific information on:

- Areas that provide habitat for the Santa Ana sucker that we did not discuss in this proposed critical habitat rule.

- Areas within the geographical area occupied by the species at the time of listing that contain the physical and biological features essential to the conservation of the species which may require special management considerations or protection, that we should include in the designation and reason(s) why (see **Physical and Biological Features** section below for further discussion.), and
- Areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of the species and why.

(3) Specific information on our proposed designation of City Creek and the Santa Ana River above Seven Oaks Dam to provide habitat for future reintroduction of the Santa Ana sucker to augment the Santa Ana sucker population in the Santa Ana River. See **Critical Habitat Units** section below.

(4) Specific information on the Santa Ana sucker, habitat conditions, and the presence of physical and biological features essential for the conservation of the species in Subunit 1B below Prado Dam.

(5) Specific information on the sediment contribution from tributaries

to the Santa Ana River below Prado Dam (Subunit 1B).

(6) Specific information on the Santa Ana sucker, habitat conditions, and the presence of potential permanent barriers to movement in Big Tujunga Wash (Subunit 3A), particularly between the Big Tujunga Canyon Road Bridge and the Big Tujunga Dam. See **Critical Habitat Units** section below.

(7) Specific information on in-stream gradient (slope) limitations of the species. In this proposed revised rule, we assume that Santa Ana suckers are unable to occupy stream sections where the in-stream slope exceeds 7 degrees. See **Primary Constituent Elements (PCEs)** section below.

(8) Land-use designations and current or planned activities in the areas proposed as critical habitat, as well as their possible effects on proposed critical habitat.

(9) Comments or information that may assist us in identifying or clarifying the PCEs. See **Primary Constituent Elements** section below for further discussion of PCEs.

(10) How the proposed revised critical habitat boundaries could be refined to more closely circumscribe the areas identified as containing the features essential to the species' conservation.

(11) Any probable economic, national-security, or other impacts of designating particular areas as critical habitat, and, in particular, any impacts on small entities (e.g., small businesses or small governments), and the benefits of including or excluding areas that exhibit these impacts.

(12) Whether any specific areas being proposed as critical habitat should be excluded under section 4(b)(2) of the Act, and whether the benefits of potentially excluding any particular area outweigh the benefits of including that area under section 4(b)(2) of the Act. See **Exclusions** section below for further discussion.

(13) The potential exclusion of Subunits 1B and 1C under section 4(b)(2) of the Act based on the benefits to the species provided by implementation of the Santa Ana Sucker Conservation Program and whether the benefits of exclusion of this area outweigh the benefits of including this area as critical habitat, and why. See **Exclusions** section below for further discussion.

(14) Information on any quantifiable economic costs or benefits of the proposed revised designation of critical habitat.

(15) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and

understanding, or to better accommodate public concerns and comments.

Our final determination concerning critical habitat for the Santa Ana sucker will take into consideration all written comments we receive during the comment period, including comments we have requested from peer reviewers, comments we receive during a public hearing should we receive a request for one, and any additional information we receive during the 60-day comment period. Our final determination will also consider all written comments and any additional information we receive during the comment period for the draft economic analysis. All comments will be included in the public record for this rulemaking. On the basis of peer reviewer and public comments, we may, during the development of our final determination, find that areas within those proposed do not meet the definition of critical habitat, that some modifications to the described boundaries are appropriate, or that some areas may be excluded from the final determination under section 4(b)(2) of the Act based on Secretarial discretion.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section.

We will post your entire comment—including your personal identifying information—on <http://www.regulations.gov>. If you provide personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy comments on <http://www.regulations.gov>. Please include sufficient information with your comment to allow us to verify any scientific or commercial data you submit.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on <http://www.regulations.gov>, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office (see the **FOR FURTHER INFORMATION CONTACT** section).

You may obtain copies of this proposed revised rule by mail from the Carlsbad Fish and Wildlife Office (see the **FOR FURTHER INFORMATION CONTACT** section) or by visiting the *Federal eRulemaking Portal* at <http://www.regulations.gov>.

Background

It is our intent to discuss only those topics directly relevant to the revised designation of critical habitat in this proposed rule. This rule incorporates new information on the distribution of the Santa Ana sucker and its habitat within the Santa Ana River that we did not discuss in the 2005 final critical habitat designation for this species. No new information pertaining to the species' description, life history, or ecology was received following the 2005 final critical habitat designation for this species; summary information relevant to this species critical habitat is provided below. For more information on the Santa Ana sucker, refer to the final listing rule published in the **Federal Register** on April 12, 2000 (65 FR 19686), and the designation and revision of critical habitat for the Santa Ana sucker published in the **Federal Register** on February 26, 2004 (69 FR 8839), and on January 4, 2005 (70 FR 426), respectively.

Species Description

The Santa Ana sucker is a small, short-lived member of the sucker family of fishes (Catostomidae), named so primarily because of the downward orientation and anatomy of their mouthparts which allow them to suck up small invertebrates, algae, and other organic matter with their fleshy, protrusible lips (Moyle 2002, p. 179). Santa Ana suckers are generally less than 6.3 inch (in) (16 centimeters (cm)) in length, are silvery-white below and darker along the back, with irregular dorsal blotches on the sides and faint patterns of pigmentation arranged in lateral stripes, and the membranes connecting the rays of the caudal (tail) fin are pigmented (Moyle 2002, p. 182). Spawning tubercles, or raised growths on sexually mature fish, particularly at the beginning of the breeding season, are present on most parts of the body of breeding males and are heaviest on the anal fin, caudal fin, and lower half of the caudal peduncle. Female suckers grow tubercles on the caudal fin and caudal peduncle (Moyle 2002, pp. 182-183).

Habitat

The Santa Ana sucker occurs in the watersheds draining the San Gabriel and San Bernardino Mountains of southern California. Their historical distribution extended from upper watershed areas to the Pacific Ocean; hence, they are capable of living in habitats as diverse as mountain streams and rivers in alluvial floodplains (Moyle 2002, p. 183; Swift *et al.* 1993, pp. 119-121).

Sediment loads are high in the San Gabriel and San Bernardino Mountains (National Research Council 1996, p. 29). The streams that this species inhabits are generally perennial streams with water ranging in depth from a few inches to several feet and with currents ranging from slight to swift (Haglund and Baskin 2003, p. 2). They are also naturally subject to periodic, severe flooding (Moyle 2002, p.183). However, decades of groundwater extraction have lowered subsurface groundwater levels within the historical range of the Santa Ana sucker (California Regional Water Quality Control Board 1995, pp. 1-4 to 1-5). In conjunction with periodic reductions in stream flows during extended periods of drought typical of southern California climate cycles, all streams that support the Santa Ana sucker experience less perennial flow (California Regional Water Quality Control Board 1995, p. 1-4). Flows also fluctuate artificially, either increasing or decreasing in an unnatural manner as a result of dam operations and, in some areas, discharges from wastewater treatment plants.

Santa Ana suckers are most abundant in unpolluted, clear water that is typically less than 72 degrees Fahrenheit (°F) (22 degrees Celsius (°C)) in temperature (Moyle and Yoshiyama 1992, p. 203). Santa Ana suckers appear to tolerate the relatively warmer water temperatures and turbid water conditions that occur in the Santa Ana River (Chadwick and Associates, Inc. 1992, p. 37; Moyle and Yoshiyama 1992, p. 203; Saiki 2000, p. 25). Santa Ana suckers prefer streams that contain coarse substrates, including gravel, cobble, and mixtures of gravel or cobble with sand and a combination of shallow riffle areas and deeper runs and pools (Haglund and Baskin 2003, p. 55; Haglund *et al.* 2001, p. 60). This species also prefers habitat containing in-stream or bank-side riparian vegetation that provides shade/cover; however, vegetation becomes less important where larger, deeper pools and riffles are present (Moyle 2002, p. 183). Open stream reaches with shifting sandy substrates typically lack an accumulation of woody debris and are less suitable for the development of an aquatic invertebrate community (Leidy *et al.* 2001, p. 5-3). Areas of shifting sandy substrates are also less suitable for development of algae, an important food source for suckers (Saiki *et al.* 2007, p. 98).

Tributaries, particularly near their confluence with occupied areas of the mainstem of the river, may also provide important habitat for the Santa Ana sucker (Chadwick and Associates, Inc.

1992, p. 49; Chadwick Ecological Consultants, Inc. 1996, p. 16; Haglund *et al.* 2002, pp. 54–60), providing shallow-water refuge for larvae and fry from larger predatory fish and acting as refuge for juvenile and adult Santa Ana suckers during storms. Additionally, the species may be attracted to tributaries due to the relatively colder water temperatures found there (Swift 2001, p. 26).

Life History

Santa Ana suckers feed on algae, zooplankton (such as diatoms), and detritus that they scrape from the surfaces of rocks and other hard substrates. These food sources constitute approximately 98 percent of their diet, with the remainder consisting of aquatic insect larvae, fish scales, and fish eggs (Greenfield *et al.* 1970, p. 174). While smaller, younger Santa Ana suckers feed primarily on algae, diatoms, and detritus, insects appear to become a more significant part of the diet of larger individuals (Greenfield *et al.* 1970, p. 174).

Santa Ana suckers typically live about 3 years, although, based on size, some may live longer than 4 years (Drake 1988, p. 56). Male and female Santa Ana suckers grow at approximately the same rate (Greenfield *et al.* 1970, p. 174). Spawning typically occurs in the spring, generally beginning in mid-March, peaking in April, and concluding by early July (Moyle 2002, p. 183). However, juveniles less than 1 inch (in) (25 millimeters (mm)) in length have been collected in the Santa Ana River as early as February (Haglund *et al.* 2003, p. 103) and as late as August (Chadwick and Associates, Inc. 1992, pp. 51, 54). In the San Gabriel River, juveniles less than 1 in (25 millimeters (mm)) have been collected in both December (Saiki 2000, p. 54) and August (Tennant 2006, p. 2). These data indicate spawning may be protracted and the timing highly variable, depending on local conditions in each watershed (such as water temperature, stream size, or pattern of seasonal runoff).

Santa Ana suckers become reproductively mature during spring following hatching (Greenfield *et al.* 1970, p. 172). Females deposit eggs in gravel substrate without constructing any type of nest; however, eggs are well-camouflaged in the gravel. The eggs are demesal and adhesive, meaning they adhere to the substrate rather than floating and dispersing on the surface of the water (Greenfield *et al.* 1970, p. 169). Eggs deposited in ambient stream temperatures of 55 °F (13 °C) have been found to hatch larvae approximately 0.3 in (7 mm) in total length within 360

hours (approximately 15 days) of fertilization. When larvae are approximately 0.6 in (16 mm) long, the mouth becomes sub-terminal and the larva transform into fry (Greenfield *et al.* 1970, p. 169).

Fecundity in the Santa Ana suckers is exceptionally high relative to that of other suckers (Moyle 2002, p. 183). Females can lay between 4,400 and 16,000 eggs at a given time with larger females laying greater numbers of eggs than smaller females (Greenfield *et al.* 1970, p. 170). Hence, average overall growth of fish likely affects population fitness. The combination of early sexual maturity, protracted spawning period, and high fecundity allows the Santa Ana sucker to quickly repopulate streams following periodic flood events that can otherwise decimate populations (Greenfield *et al.* 1970, pp. 166, 177, 178), provided that there is a refuge available to fish within the stream. Winter flood events may contribute to catastrophic decreases in abundance by transporting Santa Ana suckers downstream to areas with unsuitable habitat. Such floods, when of sufficient magnitude, also disrupt the aquatic invertebrate community, thereby reducing habitat quality for the Santa Ana sucker until stream bed conditions stabilize and the diversity and abundance of this forage source is re-established (Haglund and Baskin 1992, p. 45, 56; Leidy *et al.* 2001, p. 5-3). Conversely, summer droughts may strand Santa Ana suckers in isolated pools where they are exposed to unsuitable water-quality conditions or an increased probability of predation. Both conditions highlight the importance of refuge areas with more stable habitat conditions for the conservation of the Santa Ana sucker.

Geographic Range and Status

As discussed in the final rule (65 FR 19686; April 12, 2000), listing the Santa Ana sucker as threatened, this species' historical range includes the rivers and larger streams emanating from the San Gabriel and San Bernardino Mountains in Ventura, Los Angeles, Orange, Riverside, and San Bernardino Counties. The species is currently known to occur in the Santa Ana River (San Bernardino, Riverside, and Orange Counties) and the San Gabriel River and Big Tujunga Creek (Los Angeles County). However, information about the distribution of the Santa Ana sucker in many tributaries within its historical range is incomplete. For example, Santa Ana suckers were recently found in San Dimas Creek, a tributary to the San Gabriel River that is isolated from remaining occupied habitat in the San Gabriel River by

development (Chambers Group 2008, pp. 1–3). See the final listing rule for a detailed discussion of this species' historical range.

A population of the Santa Ana sucker is also found in the Santa Clara River. However, we determined at the time of listing that there was sufficient evidence to conclude that this population of Santa Ana sucker is not native to this river and hence, we did not include the Santa Clara River population in the geographic range of the listed Santa Ana Sucker (65 FR 19686; April 12, 2000). We have no new information that clarifies the status of this species as native or nonnative to this river. A genetic analysis of the populations in all four watersheds (Santa Clara, Santa Ana, San Gabriel, and Los Angeles) would assist in determining the origin of the species in the Santa Clara River; however, this analysis has not been completed at this time.

In addition to a lack of information clarifying the status of this species as native or nonnative, hybrids between the Santa Ana sucker and the Owens sucker have been collected in the lower Santa Clara River in the vicinity of Fillmore and within Sespe Creek (Moyle 2002, p. 182). The Owens sucker (*Catostomus fumeiventris*), which is endemic to the Owens River watershed in southeastern California, has been documented in the Santa Clara River since the 1930s (Hubbs *et al.* 1943, p. 47). This species was apparently introduced to the Santa Clara River through transfers of Owens River water via the Owens Aqueduct (Bell 1978, p. 14). Recently, genetic introgression (which is the backcrossing of hybrid offspring with one of its parent species) has been detected in both Santa Ana and Owens suckers within the Santa Clara River (Ferguson 2009, p.1; Chabot *et al.* 2009, p. 24), indicating that hybridization between these two species has occurred. However, additional research is needed to determine the impact of hybridization on genetically “pure” Santa Ana sucker in the Santa Clara River.

Therefore, given the lack of new information on the status of this species as native or nonnative as well as a lack of information on the impacts of hybridization on genetically “pure” Santa Ana sucker, we continue to adhere to our 2000 decision not to include the Santa Clara River population of the Santa Ana sucker as part of the listed entity. As a consequence, the Santa Clara River area has not been included in this proposed revision to critical habitat.

The current distribution of the listed Santa Ana sucker is delimited by dams

or other impassable structures that preclude further dispersal or migration of fish (Cogswell Reservoir on the West Fork; the “Bridge-of-No-Return” on the North Fork of the San Gabriel River; the Big Tujunga Dam on Big Tujunga Creek; and the La Cadena drop structure in the Santa Ana River). Additionally, decades of water diversion and water withdrawal have permanently altered the natural watershed flows within the Los Angeles and Santa Ana watershed region (California Regional Water Quality Control Board 1995, pp. 1-2 to 1-4). The current distribution is also delimited by dams (Hansen Dam on Big Tujunga Creek, San Gabriel Dam on San Gabriel River, and a series of rubber dams just below Weir Canyon Road on the Santa Ana River) and the permanent loss of suitable downstream habitat areas as a result of urban development (Moyle 2002, p. 184). Altered fluvial processes and impediments to movement fragment much of the current range of the Santa Ana sucker within each watershed. In its remaining habitat, severe restriction of natural water flows causes impacts to populations of the Santa Ana sucker including stranding and reduction in usable habitat areas when tributaries run dry (Moyle 2002, p. 184). See the final listing rule (65 FR 19686; April 12, 2000) and the **Special Management Considerations or Protection** section below for additional discussion of the current threats to the species in areas included in this proposed revised critical habitat designation.

Previous Federal Actions

The Santa Ana sucker was listed as a threatened species on April 12, 2000 (65 FR 19686), in the Santa Ana River, San Gabriel River, and Big Tujunga Creek. A fourth population in the Santa Clara River was not listed because it was presumed to be introduced into that watershed (see **Geographic Range and Status** section above). Pursuant to a settlement agreement with California Trout, Inc., the California-Nevada Chapter of the American Fisheries Society, the Center for Biological Diversity, and the Friends of the River (plaintiffs) [*California Trout, et al. v. Norton, et al.* (Case No. 97-3779, N.D. Cal)], we published a proposed and final critical habitat designation in the **Federal Register** on February 26, 2004, that encompassed 21,129 ac (8,551 ha) in the Santa Ana River, San Gabriel River, and Big Tujunga Creek. To give the public an opportunity to comment on the critical habitat designation, including the opportunity for a public hearing, and to enable the Service to complete and circulate for public review

an Economic Analysis of the critical habitat designation, we published and solicited comment on the proposed rule (69 FR 8911). Subsequently, we published a notice in the **Federal Register** on August 19, 2004 (69 FR 51416), announcing the reopening of a 30-day comment period on the proposed rule and the holding of a public hearing on September 9, 2004, in Pasadena, California. A final revised critical habitat rule was published in the **Federal Register** on January 4, 2005, designating a total of 8,305 ac (3,361 ha) in the San Gabriel River and Big Tujunga Creek in San Bernardino County. On July 20, 2007 (Service 2007, pp. 1–2), we announced that we would review the January 4, 2005, final critical habitat rule after questions were raised about the integrity of scientific information used and whether the decision made was consistent with the appropriate legal standards. Based on our review of the 2005 final critical habitat designation, we determined it was necessary to revise critical habitat and this rule proposes those revisions.

On November 15, 2007, the parties listed above filed suit against the Service alleging the 2005 final designation of critical habitat violated provisions of the Act and Administrative Procedure Act [(California Trout, Inc., *et al.*, v. United States Fish and Wildlife, *et al.*, Case No. 07–CV–05798 (N.D. Cal.) *transferred* Case No CV 08-4811 (C.D. Cal.)]. The plaintiffs alleged that our January 4, 2005, final revised critical habitat designation for the Santa Ana sucker was insufficient for various reasons and should include the Santa Clara River population. We entered into a stipulated settlement agreement with plaintiffs that was approved by the district court on January 21, 2009. Pursuant to the district court order, we committed to submit a proposed revised critical habitat designation for the Santa Ana sucker to the **Federal Register** by December 1, 2009, and submit a final revised critical habitat designation to the **Federal Register** by December 1, 2010.

Critical Habitat

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical 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:

- (a) essential to the conservation of the species and
- (b) that may require special management considerations or protection; and

(2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures that are necessary to bring any endangered or threatened species to the point at which the measures provided under the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, transplantation, and in the extraordinary case where population pressures within a given ecosystem cannot otherwise be relieved, may include regulated taking.

Critical habitat receives protection under section 7(a)(2) of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7(a)(2) of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by private landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) would apply, but even in the event of a destruction or adverse modification finding, the landowner's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

For inclusion in a critical habitat designation, the habitat within the geographical area occupied by the species at the time of listing must contain physical or biological features that are essential to the conservation of the species, and be included only if those features may require special management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent

elements (PCEs) laid out in the appropriate quantity and spatial arrangement essential to the conservation of the species). Under the Act, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed as critical habitat only when we determine that those areas are essential for the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific and commercial data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we determine which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all habitat areas that we may eventually determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not promote the recovery of the species.

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act. They are also subject to the regulatory protections afforded by section 9 of the Act and the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the agency action.

Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, Habitat Conservation Plans (HCPs), or other species conservation planning efforts if information available at the time of these planning efforts calls for a different outcome.

Methods

As required by section 4(b) of the Act, we used the best scientific and commercial data available in determining areas occupied at the time of listing that contain the features essential to the conservation of the Santa Ana sucker. We reviewed the approach to the conservation of the Santa Ana sucker provided in the 2004 final critical habitat designation for the Santa Ana sucker (69 FR 8839; February 26, 2004); the 2005 final revised critical habitat designation (70 FR 426; January 4, 2005); information from State, Federal, and local government agencies; and information from academia and private organizations that collected scientific data on the species. Other information we used for this proposed revised critical habitat includes: published and unpublished papers, reports, academic theses, species and habitat surveys; Geographic Information System (GIS) data (such as species occurrence data, habitat data, land use, topography, digital aerial photography, and ownership maps); correspondence to the Service from recognized experts; site visits by Service biologists; and other information as available. Mapping for this proposed revised critical habitat designation was completed using ESRI ArcMap 9.3.1 (ESRI, Inc. 2009).

Physical and Biological Features

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR § 424.12(b), in determining which areas occupied by the species at the time of listing to propose as critical habitat, we consider those physical and biological features that are essential to the conservation of the species that may require special management considerations or protection. We consider the physical and biological features to be the PCEs laid out in the appropriate quantity and spatial arrangement for the conservation of the species. The PCEs include, but are not limited to:

(1) Space for individual and population growth and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, and rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

We derived the PCEs required for the Santa Ana sucker from its biological needs. The areas proposed as revised critical habitat consist of flowing stream habitat, although some portions of this habitat may experience significant reductions in, or an absence of, surface flows during certain portions of the year (such as during summer months) or under certain conditions (such as during severe droughts, when artificial sources of water are temporarily suspended). Some areas that we consider essential to the conservation of the Santa Ana sucker may not experience flows except during major storms events. However, these areas are critical important components of naturally-occurring hydrologic and geologic processes in the historical range of this species. We have attempted to capture the dynamic nature and importance of these processes to the ecological function upon which the Santa Ana sucker depends.

Habitats That Are Representative of the Historic Geographical and Ecological Distribution of the Species

The Santa Ana sucker inhabits flowing streams and has not been collected from reservoirs (Swift 2001, p. 15; Moyle 2002, p. 184). Water depths and velocities, as well as bed substrates, vary over the reaches of these streams creating various habitat features including:

(1) Moderate currents over a uniform, unbroken stream bottom (i.e., runs);

(2) water flowing over gravel and cobble substrates that causes ripples to form on the surface of the water (i.e., riffles); and

(3) deep water areas created by submerged boulders where water is cool and relatively still (i.e., pools). Streams in southern California are subject to periodic, severe flooding that alters channel configuration, in-stream habitat conditions, and vegetation structure (Moyle 2002, p. 183). Hence, as stream conditions change, the characteristics of stream and bank habitats and their suitability for the Santa Ana sucker changes, influencing the distribution of

the fish over time. Therefore, even stream reaches where flows may periodically be interrupted or dewatered become important during periods of high flows to allow Santa Ana suckers to move between other habitat areas necessary for breeding, feeding, and sheltering.

Gravel beds in shallow, but clear, flowing stream reaches are needed for spawning. Shallow areas with sandy substrates and overhanging vegetation are needed to support larvae and fry. Juvenile and adult Santa Ana suckers require deeper pools of water for forage, shelter during storms, and cover.

The Santa Ana sucker prefers cool water temperatures and has been found in waters between 59 and 82 °F (15 and 28 °C) in the Santa Ana River (Swift 2001, p. 18). These cooler water temperatures are only maintained in some areas by the upwelling of cooler groundwater, tributary flows, or shade from overhanging vegetation.

Overhanging and in-stream vegetation are also needed for the development of an aquatic invertebrate community to supply food for adult suckers as well as for protective cover, and shade, which reduces water temperature during summer and fall months. Therefore, a complex stream system is needed that: (1) Encompasses sand, gravel, cobble, and rock substrates; (2) harbors diverse bed morphologies found in deep canyons and alluvial floodplains; (3) provides varying water depths and velocities; (4) contains tributaries that provide fish with areas of refuge (refugia) from predators and during floods and that can also provide suitable breeding habitat; and (5) harbors sources of sediment for renewal of substrate in occupied areas. The PCEs and the resulting physical and biological features essential for the conservation of the Santa Ana sucker are derived from studies of this species' habitat, ecology, and life history as described below, in the **Background** section in this proposed rule, in the final listing rule published in the **Federal Register** on April 12, 2000 (65 FR 19686), in the designation of critical habitat published in the **Federal Register** on February 26, 2004 (69 FR 8839), and in the final revised critical habitat published in the **Federal Register** on January 4, 2005 (70 FR 426).

Space for Individual and Population Growth and for Normal Behavior

Santa Ana suckers use various water depths, depending on their life-history stage and activity, and do not occupy all reaches of their habitat at any one time (Saiki 2000, p. 19; Haglund and Baskin 2003, p. 53). Larval- and early-stage

juvenile Santa Ana suckers prefer the shallow margins of streams in water of 2 to 4 in (5 to 10 cm) in depth; as fish mature, they move into deeper water. Adults prefer deep pools for feeding and seeking refuge, riffles of varying depths for spawning, and riffles and runs of varying depths for movement between pools (Haglund *et al.* 2003, p. 102). For example, in the Santa Ana River, adult suckers have been found in diverse habitat areas, including shallow runs of less than 4 in (10 cm) in depth, in flowing water up to 5 ft (150 cm) deep (Saiki 2000, p. 19; Swift 2001, p. 66), and in pools 6 to 10 ft (200 to 300 cm) deep (Allen 2004). They have been found in similarly varying water depths in the San Gabriel River (Saiki 2000, p. 48), and Saiki speculates that their capture in these various depths is reflective of their ability to take advantage of a variety of habitat conditions (2000, p. 25). Flows within occupied habitat areas may occasionally become very shallow due to seasonal reductions in flow volumes or be interrupted as a result of dam operations or releases from wastewater treatment plants (such as in the Santa Ana River) in some portions of a stream reach. When stream depth is significantly reduced, deep pools become a critically important refuge for fish.

Surface water flows must be present within the stream, but water velocities where Santa Ana suckers occur can vary from slight to swift (Haglund and Baskin 2003, p. 2). Larvae and fry congregate exclusively in almost-still waters, not moving into swifter currents until they have matured into later juvenile stages (Swift 2001, pp. 17–18). Swift (2001, p. 61) suggests that juvenile fish prefer areas with less water-velocity than do adults because they can expend less energy maintaining their position in the stream. Adult and juvenile Santa Ana suckers in the San Gabriel River have been found in waters with bottom velocities ranging from 0.17 to 0.51 ft per second (0.05 and 0.15 m per second) and mid-column velocities reaching 1.95 ft per second (0.6 m per second) (Haglund and Baskin 2002, pp. 38–39). Haglund and Baskin concluded that there was no evident pattern in the locations the Santa Ana sucker selected relative to water velocity and suggested that suckers preferentially seek out locations that provide the best combination of habitat parameters (Haglund and Baskin 2003, pp. 39 and 53). In the Santa Ana River, Santa Ana suckers have been found in areas with water velocities of up to 2.4 ft per second (0.74 m per second) where wastewater discharges and

channelization of the river bed increase water velocity (Saiki 2000, pp. 18–19). In the Santa Ana River, suckers have historically been found at the Imperial Highway Bridge in Orange County (Chadwick and Associates, Inc. 1992, p. 45). However, Saiki (2000, p. 28) failed to detect Santa Ana suckers there in 1999 and believes the numbers of fish found at this site may have declined and become extirpated from the area.

Stream beds containing the mosaic of rock, cobble, and gravel preferred by Santa Ana suckers are most prevalent in the San Gabriel River (Saiki 2000, pp. 18–19). Within the Santa Ana River, shifting sands are the primary substrate constituent upstream of the Prado Basin. Bed substrates containing at least 10 percent gravel, cobble, and rock were documented for a distance of 7 mi (12.3 km) downstream from the Rialto Drain in 1999 and 2000 (Swift 2001, pp. 4, 68–75). Habitat assessments conducted between 2006 and 2008 indicated that these substrates fluctuated from 2.6 to 6.0 mi (4.2 to 9.6 km) downstream of the Rialto Drain (Thompson *et al.* 2009, p. 11).

The distribution of Santa Ana suckers across streams varies depending upon bed conditions and stream depth. Santa Ana suckers within the San Gabriel River are often found mid-channel adjacent to submerged cobble, boulders, or man made structures such as culverts. In the Santa Ana River where the streambed is sandier, they are rarely found mid-channel, but rather adjacent to shoreline areas near rooted vegetation (Saiki 2000, pp. 25, 27). Where preferred habitat conditions are absent, Santa Ana suckers make use of available habitats that provide some of the same functions provided by preferred habitats (Saiki 2000, p. 19).

The distribution of Santa Ana suckers is also likely dependent on in-stream gradient. While several authors have acknowledged that this species cannot access high gradient areas, we are not aware of any research quantifying the maximum slope passable by the Santa Ana sucker. In an attempt to estimate the maximum slope passable by the species, we used GIS to analyze the slopes associated with the Santa Ana sucker occurrence polygons and points in our database for the Santa Ana River, San Gabriel River, and Big Tujunga Creek. Based on our analysis, Santa Ana sucker have not been found in areas where the in-stream slope exceeds 7 degrees. This could be due to the species' inability to swim up these higher gradients and/or due to the lack of suitable habitat in these areas as a result of higher water velocity and a subsequent lack of suitable spawning

and feeding substrates. Also, the probability of encountering vertical barriers (such as waterfalls) increases as the overall slope across a given distance increases; therefore, even if habitat is suitable upstream, it may be inaccessible to the species. However, more extensive analysis is needed to determine the gradient limitations of the species and we are seeking additional information on this topic (see **Public Comments** section above).

A comparative analysis of suckers within the Santa Ana and San Gabriel Rivers revealed that only two cohorts are generally present within the Santa Ana River, compared with three in the San Gabriel River, indicating that few individual suckers live beyond their second year of life in the Santa Ana River (Saiki 2000, p. 13). No investigations have occurred to determine the relative life-span or fecundity of Santa Ana suckers as they relate to habitat conditions. However, overall habitat conditions for Santa Ana suckers are generally better in the San Gabriel River than in the Santa Ana River, which is reflected in the overall greater abundance of fish and better body condition of suckers in the San Gabriel River (Saiki 2000, pp. 18-28).

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Suckers are primarily bottom feeders, sucking up algae, small invertebrates, and organic detritus from gravel, cobble, rock, and other hard surfaces (Moyle 2002, p. 179). Forage for adult Santa Ana suckers is also found in pools (Allen 2003, p. 6). Riparian vegetation and emergent aquatic vegetation provide additional sources of detritus and aquatic invertebrates such as insects (Leidy *et al.* 2001, p. 5-2). Insects may provide a high energy source of food for adult Santa Ana suckers (Saiki 2000, p. 23). In a comparative analysis of Santa Ana suckers in the Santa Ana and San Gabriel Rivers, Saiki (2000, pp. 27, 98) found that body condition (length-weight relationship) of suckers in the San Gabriel River was better than that of fish in the Santa Ana River, possibly due to a greater abundance of food resources (including algae and insects) found on the rocky substrate in the San Gabriel River relative to the sandy substrate in the Santa Ana River.

Although the specific tolerances to water-quality variables have not been evaluated for the Santa Ana sucker, water temperature, dissolved oxygen content, and turbidity (such as excessive detritus in the water column or protracted suspension of fine-grained sediments) are all important aspects of

water quality that affect the physiology of fish (California Regional Water Quality Control Board 1995, pp. 4-1 to 4-15). This species has been found in waters between 59 and 82 °F (15 and 28 °C) in the Santa Ana River (Swift 2001, p. 18). Swift (2001, p. 34) states that although a lethal limit for water temperature is unknown, water temperatures much above 86 °F (30 °C) likely limit distribution and movement of this species. Santa Ana suckers are generally more abundant in the cooler waters of the San Gabriel River than they are in the warmer waters of the Santa Ana River (Saiki 2000, pp. 27-28). Researchers conclude that in addition to having poor habitat conditions such as sandy substrate and lack of in-stream cover, areas of the Santa Ana River may be devoid of Santa Ana suckers due to higher water temperatures (Chadwick and Associates, Inc. 1992, p. 37).

Adequate dissolved oxygen is necessary for aquatic life and as water warms, its concentration of dissolved oxygen drops, stressing fish (California Regional Water Quality Control Board, Santa Ana Region 1995, p. 4-3). In general, waters occupied by Santa Ana suckers are high in dissolved oxygen (Saiki 2000, pp. 18-19).

Santa Ana suckers are more abundant in clear rather than in turbid (cloudy or hazy) water conditions (Saiki 2000, pp. 28, 52; 2007, p. 95). This is most likely because suspended sediments interrupt light penetration through the water column, reducing algal growth that is the primary forage of the Santa Ana sucker. One measurement of turbidity is Nephelometric Turbidity Units (NTU). Saiki (2007, pp. 95-96) found that Santa Ana suckers were more abundant in the San Gabriel River where turbidity averaged 5.9 NTUs (ranging from 4.3 to 8.2 NTUs), and less abundant in the Santa Ana River where turbidity averaged 29 NTUs (ranging from 10.1 to 83.4 NTUs). However, Santa Ana suckers have been found in the Santa Ana River in an area where turbidity was measured between 85 and 112 NTUs (Baskin and Haglund 2001, p. 6). Therefore, while Santa Ana suckers likely avoid turbid waters when possible, they have been documented in turbid conditions on occasion (Haglund *et al.* 2002, p. 11). Saiki (2000, p. 25) speculates that fish occur under less-than-optimal ambient conditions because they are using whatever habitat is available to them and cites these conditions as a possible reason for reduced abundance of Santa Ana suckers in the Santa Ana River relative to their abundance in the San Gabriel River.

Multiple wastewater treatment plants discharge into the Santa Ana River and its tributaries and account for most of the dry-season flows within the river (California Regional Water Quality Control Board 1995, pp. 1-7). The City of San Bernardino Municipal Water District's Rapid Infiltration and Extraction Facility, Rialto Treatment Plant, and the City of Riverside Regional Water Quality Control Plant all discharge into the Santa Ana River. As a result of rising groundwater, nonpoint source urban runoff, and these wastewater discharges, perennial flows are maintained from the vicinity of the Rialto Drain and downstream. Although these discharges contain contaminants not found in natural runoff, there is no evidence that the concentrations of regulated compounds found in Santa Ana suckers in this river exceed mean concentrations found in freshwater fish in other areas of the United States (Saiki 2000, p. 24).

Cover or Shelter

In-stream emergent and overhanging riparian vegetation along the banks of stream courses provide shade, shelter, and cover for fry, juvenile, and adult Santa Ana suckers. Shading is very important to Santa Ana suckers that inhabit shallow waters because it reduces water temperatures due to high summer ambient temperatures. A complex stream system containing submerged boulders, deep pools, and undercut banks provides cover and shelter for juvenile and adult Santa Ana suckers (Saiki *et al.* 2007, p. 99; Moyle *et al.* 1995, p. 202). Tributaries may provide important shallow-water refugia for larvae and fry from larger, predatory fish and act as refugia for juvenile and adult Santa Ana suckers during storms.

Sites for Breeding, Reproduction, and Rearing (or Development) of Offspring

Adult Santa Ana suckers spawn over gravel beds in flowing water (riffles) where the female deposits the eggs in fine gravel substrate. Substrate collected from two spawning locations in tributaries to the Santa Ana River consisted of gravel-sized particles ranging in diameter from 0.04 to 1.6 in (1.0 to 41.5 mm) (Haglund *et al.* 2001, p. 47). The presence of appropriately sized substrate allows for water flow around eggs to prevent sediment from depositing on and smothering the eggs. Eggs deposited on sand or silt are likely to be washed downstream or be smothered. In addition to appropriate substrate, adequate water velocities are necessary to oxygenate eggs. Santa Ana sucker spawning has been reported in streams with bottom velocities of 0.65

and 0.77 ft per second (0.20 and 0.23 m per second) (Haglund *et al.* 2003, p. 63).

Once emerged from the eggs, Santa Ana sucker larvae congregate in shallow, slow-moving waters from 1 to 5.5 in (3 to 14 cm) deep over very soft sand or mud substrate (Haglund *et al.* 2003, p. 11; Haglund *et al.* 2002, pp. 69–71; Swift 2001, p. 17). This type of habitat is usually found along the margins of streams in proximity to emergent vegetation. Fry are found almost exclusively in edgewater habitats over silt or sand in water depths of less than 7 in (17 cm) where there is little measurable flow; Haglund and Baskin (2003, p. 47) speculate this reduces access by larger predatory fish and, because shallow waters are warmer, may increase the growth rates of developing suckers. Juvenile fish move away from edgewater habitats and congregate at the interface of the almost-still waters at the adjacent bank-edge and the main stream flows (Swift 2001, pp. 17–18). By the end of their first summer, juvenile Santa Ana suckers move into deeper water habitats with adults, presumably because they are large enough to compete with adult suckers for forage (Swift 2001, p. 18).

Tributaries may provide essential spawning habitat for the Santa Ana sucker, particularly in the Santa Ana River (Chadwick and Associates, Inc. 1992, p. 49; Chadwick Ecological Consultants, Inc. 1996, p. 16; Haglund *et al.* 2002, pp. 54–60). An abundance of juvenile fish has been recorded in multiple tributaries in the Santa Ana River (such as the Tequesquite Arroyo and the Evans and Anza drains) and, hence, these have been considered possible spawning sites (Chadwick and Associates, Inc. 1992, p. 49). However, Swift (2001, p. 26) concluded that the species may be attracted to tributaries due to the relatively colder water temperatures found there. He stated that most tributaries to the Santa Ana River lack either suitable substrates or water velocities to support successful spawning. Swift (2001, p. 26) considered that only the Rialto Drain and Sunnyslope Creek provided habitat conditions suitable to support spawning. These sites are two of the few remaining areas containing gravel beds, and restoration may be required to maintain substrate conditions over time (Orange County Water District (OCWD) 2009, pp. 6-4 – 6-5).

Primary Constituent Elements for the Santa Ana Sucker

Pursuant to the Act and its implementing regulations, we are required to identify the physical and biological features within the

geographical area occupied by the Santa Ana sucker at the time of listing that are essential to the conservation of the species and which may require special management considerations or protection. The physical and biological features are those PCEs laid out in a specific spatial arrangement and quantity determined to be essential to the conservation of the species. We are proposing to designate critical habitat in areas within the geographical area that were occupied by the species at the time of listing that are and continue also currently to be occupied today, and that contain the PCEs in the quantity and spatial arrangement to support life history functions essential for the conservation of the species. We are also proposing to designate areas outside the geographical area occupied by the species at the time of listing that are not occupied but are essential to the conservation of the species. See **Criteria Used To Identify Critical Habitat** section below for a discussion of the species' geographic range.

We believe conservation of the Santa Ana sucker is dependent upon multiple factors, including the conservation and management of areas to maintain “normal” ecological functions where existing populations survive and reproduce. The areas we are proposing as critical habitat provide some or all of the physical or biological features essential for the conservation of this species. Based on the best available information, the primary constituent elements essential for the conservation of the sucker are the following:

(1) A functioning hydrological system within the historical geographic range of the Santa Ana sucker that experiences peaks and ebbs in the water volume (either naturally or regulated) necessary to maintain all life stages of the species, including adults, juveniles, larva, and eggs, in the riverine environment;

(2) Stream channel substrate consisting of a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins necessary to maintain various life stages of the species, including adults, juveniles, larva, and eggs, in the riverine environment;

(3) Water depths greater than 1.2 in (3 cm) and bottom water velocities greater than 0.01 ft per second (0.03 m per second);

(4) Clear or only occasionally turbid water;

(5) Water temperatures less than 86° F (30° C);

(6) In-stream habitat that includes food sources (such as zooplankton, phytoplankton, and aquatic

invertebrates), and associated vegetation such as aquatic emergent vegetation and adjacent riparian vegetation to provide: (a) Shading to reduce water temperature when ambient temperatures are high, (b) shelter during periods of high water velocity, and (c) protective cover from predators; and

(7) Areas within perennial stream courses that may be periodically dewatered, but that serve as connective corridors between occupied or seasonally occupied habitat and through which the species may move when the habitat is wetted.

All occupied units proposed as critical habitat contain the PCEs in the appropriate quantity and spatial arrangement essential to the conservation of this species and support multiple life processes for the Santa Ana sucker.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the physical and biological features within the geographical area occupied by the species at the time of listing that are essential to the conservation of the species may require special management considerations or protection.

All areas included in our proposed revision of critical habitat will require some level of management to address the current and future threats to the physical and biological features essential to the conservation of the Santa Ana sucker. Special management considerations or protection may be required to minimize habitat destruction, degradation, and fragmentation associated with the following threats, among others: water diversion; alteration of stream channels and watersheds; reduction of water quantity associated with urban development and human recreational activities, including swimming, construction and operation of golf courses; and off-highway vehicle (OHV) use. For discussion of the threats to the Santa Ana sucker and its habitat, please see the **Summary of Comments and Recommendations** and **Summary of Factors Affecting the Species** sections of the final listing rule (65 FR 19686; April 12, 2000) and the **Public Comments and Critical Habitat Unit Descriptions** sections of the final critical habitat rule (70 FR 439; January 4, 2005). Please also see **Critical Habitat Units** section below for a discussion of the threats in each proposed critical habitat unit.

In addition to the threats to the Santa Ana sucker and its habitat described in the final listing and critical habitat

rules, the physical and biological features essential to the conservation of the Santa Ana sucker may require special management considerations or protection to minimize habitat destruction, degradation, and fragmentation associated with the construction of recreational dams, the operation of recreational residences, and the construction of road crossings and bridges across waterways.

Recreational Dams

People construct artificial dams from boulders, logs, and trash to create pools within these rivers for fishing, swimming, wading, and bathing (Ally 2003, p. 1). The construction of "recreational" dams degrades in-stream and possibly bank habitat, increases turbidity (PCE 4), disrupts sediment transport, and impedes upstream movement of Santa Ana suckers, especially during droughts (Ally 2003, pp. 1–3), thereby fragmenting habitat connectivity within occupied habitat. When dams exist during the spawning season, these in-stream disruptions can bury gravel beds (PCE 2) used for spawning (Ally 2003, p. 1). Recreational dams can also further degrade habitat by slowing water velocities (PCE 3), increasing water temperatures (PCE 5), and encouraging excessive growth of algae (Ally 2003, p. 3).

Recreational Residences

The U.S. Forest Service (USFS) issues special use permits for the operation and maintenance of private recreational residences within the boundaries of the Angeles National Forest along Big Tujunga Creek and the North and West Forks of the San Gabriel River. Improperly functioning septic systems at these residences can degrade water quality conditions by increasing nutrient loads into the water (USFS BA 2007, p. 18) and increasing water turbidity (PCE 4).

Road Crossings and Bridges

Road crossings and bridges constructed across waterways can impact the Santa Ana sucker by creating semi permanent barriers to upstream movement and fragmenting connective corridors between areas of occupied habitat. Bridge footings and pier protections (such as concrete aprons that span the waterway) accelerate water velocities (PCE 3) and, in the absence of sediment in the water (PCE 2), scour sediments from the streambed immediately downstream. With sufficient scouring, the elevation of the downstream bed of the stream may become so low that Santa Ana suckers cannot swim upstream from that point;

scouring can also create pools that favor predatory nonnative fish. Culverts constructed under road crossings can act as barriers to movement when a culvert becomes filled in with sediment, reducing the amount of water (PCE 1) and sediment (PCE 2) that could be transported downstream. However, the extent to which these structures constitute permanent or temporary barriers depends on the quantity of water flowing and sediment transport in a given year and over time. For example, sediment-filled culverts that create a barrier to movement one year may be passable in another year if high water flows remove trapped sediments. Road crossings and bridges can also impact the species by altering the hydrology of the system (PCE 1), rerouting water flow into less suitable habitat.

Criteria Used To Identify Critical Habitat

Using the best scientific and commercial data available as required by section 4(b)(1)(A) of the Act, we identified those areas to propose for revised designation as critical habitat that, within the geographical area occupied by the species at the time of listing (see **Geographic Range and Status** section), possess those physical and biological features essential to the conservation of the Santa Ana Sucker and which may require special management considerations or protection. We also considered the area outside the geographical area occupied by the species at the time of listing for any areas that are essential for the conservation of the Santa Ana Sucker.

At the time the Santa Ana sucker was listed in 2000, the geographical area occupied by the species was considered to include the Los Angeles, San Gabriel, and Santa Ana River basins (65 FR 19686; April 12, 2000). Specifically, the listing rule identifies the following areas in each river basin as being within the geographic range occupied by the species: (1) The Santa Ana River basin including the Santa Ana River below Prado Dam, the Santa Ana River above Prado Dam to the City of Riverside, and the following tributaries: Tequesquite Arroyo, Sunnyslope Channel, and Anza Park Drain; (2) the San Gabriel River basin, including the West, North, and East forks of the San Gabriel River and Bear [Canyon] Creek, which is a tributary of the West Fork of the San Gabriel River; and (3) the Los Angeles River basin, including Big Tujunga Creek, between Big Tujunga Dam and Hansen Dam, and Haines Creek.

For the purposes of this proposed revised critical habitat designation for the Santa Ana sucker, the geographical

area occupied by the species at the time of listing is defined to include those areas specifically identified in the listing rule (65 FR 19686; April 12, 2000), as well as the following additional areas not specifically identified in the listing rule but documented to be occupied at the time of listing and documented to be currently occupied: (1) In the Santa Ana River system: Rialto Drain; and (2) in the San Gabriel River system: Big Mermaids Canyon Creek, West Fork of Bear Creek, Bichota Canyon Creek, Cattle Canyon Creek, and Cow Canyon Creek. The following areas were not specifically identified in the listing rule and are not currently occupied, and therefore, are considered outside the geographical area occupied by the species at the time of listing: The upper Santa Ana River, including City and Mill Creeks and the Santa Ana River (above Tippecanoe Road in San Bernardino County to above Seven Oaks Dam), and the following three tributaries to Big Tujunga Creek: Gold Canyon, Delta Canyon, and Stone Canyon Creeks.

As required by section 4(b)(2) of the Act, we use the best scientific data available in determining areas that contain the features that are essential to the conservation of the Santa Ana sucker that are those physical and biological features laid out in the appropriate quantity and spatial arrangement for the conservation of the species (see the **Physical and Biological Features** section). The **Methods** section summarizes our methodology used for this proposed revised critical habitat. We are proposing to include all areas within the geographical area occupied by the listed Santa Ana sucker at the time of listing following Criteria 1 through 3 below. These areas are all currently occupied. We are also proposing to include areas that were not within the geographical area occupied by the species at the time of listing and are not currently occupied but that are essential to the conservation of the species following Criteria 4 through 8 below. This proposed revised rule is an effort to update our 2005 final designation of critical habitat for the Santa Ana sucker with the best available data. In some areas that were analyzed in 2005, we have new information that led us to either add or remove areas from this proposal to revise critical habitat.

For areas within the geographic area occupied by the species at the time of listing, we delineated critical habitat unit boundaries using the following steps:

(1) We mapped historical and current digital occurrence data for the Santa Ana sucker in the form of polygons and points on the digital aerial photography using ArcMap 9.3.1 (ESRI 2009). Areas between occupancy polygons or points were assumed to be occupied if there were no significant in-stream barriers (such as dams, culverts, or drop structures) preventing further movement between occupied stream sections. We utilized imagery acquired in Spring 2008 at 1-ft (0.33 m) resolution for the Santa Ana River Unit in Riverside County and imagery acquired in January 2006 at 1-ft (0.33 m) resolution for the San Gabriel and Big Tujunga units provided by the U.S. Geological Survey; and we utilized imagery acquired in Spring 2005 at 3.25 ft (1 m) resolution provided by the National Aerial Imagery Program (NAIP) for the Santa Ana River Unit in Orange County. The resolution of the imagery allowed us to discern the likelihood of an in-stream barrier.

We recognize that the historical and recent collection records for this species are incomplete. River segments or small tributaries not included in this proposed designation may harbor small limited populations of the Santa Ana sucker or may become occupied in the future.

(2) Using aerial imagery, we delineated the lateral extent (width) of the proposed revised critical habitat associated with occupied areas to include areas that provide sufficient riverine and associated floodplain area for breeding, feeding, and sheltering of adult and juvenile Santa Ana suckers and for the habitat needs of larval stages fishes. Given the dynamic nature of these streams and the seasonal variation of the quantity of flow and the location of stream channels in any given year, we delineated the lateral extent of the proposed revised critical habitat to encompass the entire floodplain up to the lower edge of upland riparian vegetation or to the edge of a permanent barrier (such as a levee). Areas within the lateral extent contribute to the PCEs since they contain: (a) A functioning hydrological system characterized by peaks and ebbs in the water volume (PCE 1); (b) complex channels (such as alluvial fans and braided channels) and a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins (PCE 2); and (c) adjacent riparian vegetation (PCE 6).

The presence of PCEs may be seasonally variable and sporadic in distribution because of the dynamic nature of these streams and seasonal variation of flows in these streams throughout the year. Areas that may be seasonally lacking in PCEs and contain

marginal habitat were included if they were contiguous with areas containing one or more of the PCEs and contribute to the hydrologic and geologic processes essential to the ecological function of the system. These areas are essential to maintain connectivity (PCE 7) within populations, allow for species movement throughout the course of a given year, and allow for population expansion.

(3) Using aerial imagery, we delineated the upstream and downstream extents of the proposed revised critical habitat associated with areas within the geographical area occupied at the time of listing from the nearest occurrence polygon or point to either the point of a natural or manmade barrier or to the point where the in-stream gradient exceeds a 7 degree slope, either of which would prevent further movement of the Santa Ana sucker.

While several authors have acknowledged that this species cannot access high gradient areas, we are not aware of any research quantifying the maximum slope passable by the Santa Ana sucker. Therefore, in an attempt to estimate the maximum slope passable by the species, we used GIS to analyze the slopes associated with the Santa Ana sucker occurrence polygons and points in our database for the Santa Ana River, San Gabriel River, and Big Tujunga Creek. Based on our analysis, Santa Ana sucker have not been found in areas where the in-stream slope exceeds 7 degrees. In the absence of existing research on this subject, we made the assumption that a slope of 7 degrees constitutes the maximum in-stream gradient passable by the Santa Ana sucker and applied this assumption when delineating the upstream extent of the proposed revised critical habitat in the San Gabriel River system (Big Mermaids Canyon Creek, Bear Canyon Creek, West Fork of Bear Creek, Bichota Canyon Creek, Cattle Canyon Creek, and Cow Canyon Creek).

As discussed in the **Physical and Biological Features** section above, the absence of the species in these high gradient areas could be due to the species' inability to swim up these higher gradients and/or due to the lack of suitable habitat in these areas as a result of higher water velocity and a subsequent lack of suitable spawning and feeding substrates. Therefore, we assume these high gradient (greater than 7 degrees) areas do not contain the features essential to the conservation of the species.

(4) For areas outside the geographical area occupied by the species at the time it was listed, we evaluated stream

reaches to determine if additional occupied or unoccupied areas are essential to the conservation of this species and should be included in the proposed revised designation. We determined that certain areas outside the geographical area occupied by the species at the time it was listed are essential to the conservation of the species because they provide storm waters (PCE 1) necessary to transport sediments to maintain preferred substrate conditions (PCE 2) in occupied portions of the species' range or to provide habitat for potential reintroduction of the Santa Ana sucker.

(a) For the San Gabriel River, we determined that the areas within the geographical area occupied by the species at the time of listing and currently occupied are adequate for the conservation of the species based on our current understanding of the species' requirements. However, as discussed in the **Critical Habitat** section above, we recognize that designation of critical habitat may not include all habitat areas that we may eventually determine are necessary for the recovery of the species and that for this reason, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not promote the recovery of the species.

(b) In the Santa Ana River, we determined that the following areas outside the geographical area occupied by the species at the time of listing are essential for the conservation of the species: Mill Creek, City Creek, and the Santa Ana River above Seven Oaks Dam. Mill Creek has never been documented as being occupied by the Santa Ana sucker. City Creek and the Santa Ana River above Seven Oaks Dam are not currently occupied, but were historically occupied based on a 1982 California Natural Diversity Database record and a 1940 Museum of Zoology Fish Collection database record, respectively.

We determined that Mill and City Creeks are essential to the conservation of the species because these creeks provide greater quantities, relative to other creeks in the river system, of stream and storm waters (PCE 1) necessary to transport sediments necessary to maintain preferred substrate (PCE 2) conditions in occupied portions in the Santa Ana River. Using aerial imagery, we determined that Mill and City Creeks have large, unimpeded watersheds, relative to the other tributaries flowing into the upper Santa Ana River, based on the following morphological characteristics: (a) A wide floodplain area; (b) the presence of complex channels (such as braided

channels); and (c) a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins (PCE 2). Given the extent to which the hydrology and the habitat of the occupied section of the Santa Ana River have been altered and degraded due to the construction and operation of flood control structures (such as Prado and Seven Oaks Dams) and operation of water treatment facilities, maintenance of City and Mill Creeks as pathways to transport water (PCE 1) and sediments necessary to maintain preferred substrates (PCE 2) to the Santa Ana River is essential to the conservation of the species.

City Creek, along with the Santa Ana River above Seven Oaks Dam, also contains features essential to the conservation of the species (PCEs 1, 2, and 6) and we determined that both areas are essential to the conservation of the species to provide habitat for potential reintroduction of the Santa Ana sucker (see **Critical Habitat Units** section below for additional discussion).

(c) In Big Tujunga Creek, we determined that the following unoccupied areas outside the geographical area occupied by the species at the time of listing are essential for the conservation of the species — Gold Canyon, Delta Canyon, and Stone Canyon Creeks — because these areas provide greater quantities, relative to other creeks in the river system, of stream and storm waters (PCE 1) necessary to transport sediments necessary to maintain preferred substrate (PCE 2) conditions in occupied portions in Big Tujunga Creek. Using aerial imagery, we determined that Gold Canyon, Delta Canyon, and Stone Canyon Creeks have large, unimpeded watersheds, relative to the other tributaries flowing into Big Tujunga Creek, based on the following morphological characteristics: (a) A wide floodplain area; (b) the presence of complex channels (such as braided channels); and (c) a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins (PCE 2). Given the extent to which the hydrology and the habitat of the occupied section of Big Tujunga Creek have been altered and degraded due to the construction and operation of flood control structures (such as Big Tujunga and Hansen Dams, maintenance of Gold Canyon, Delta Canyon, and Stone Canyon Creeks as pathways to transport water (PCE 1) and sediments necessary to maintain preferred substrates (PCE 2) in Big

Tujunga Creek is essential to the conservation of the species.

While we are not aware of any surveys for the Santa Ana sucker conducted in these creeks, based on our calculation of maximum slope (see Criterion 3 above), it appears that the slope of Delta Canyon and Stone Canyon Creeks from near their confluence with Big Tujunga Creek is likely too steep to be passable by the Santa Ana sucker. The slope of Gold Canyon Creek from approximately 0.49 mi (0.8 km) from its confluence with Big Tujunga Creek also appears to be too steep to be passable by the Santa Ana sucker.

(5) Using aerial imagery, we delineated the lateral extent of proposed revised critical habitat in City Creek and the Santa Ana River above Seven Oaks Dam as described under Criterion 2 above to encompass the entire floodplain up to the lower edge of upland riparian vegetation or to the edge of a permanent barrier (such as a levee) to provide sufficient riverine and associated floodplain areas for breeding, feeding, and sheltering of adult, larval, and juvenile Santa Ana suckers that may be reintroduced into these areas in the future.

(6) Using aerial imagery, we delineated the lateral extent of proposed revised critical habitat in Mill, Gold Canyon, Delta Canyon, and Stone Canyon Creeks, to include areas containing: (a) A wide floodplain area; (b) complex channels (such as alluvial fans and braided channels); and (c) a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins (PCE 2) needed to provide stream and storm waters (PCE 1) necessary to transport sediments to maintain preferred substrate conditions (PCE 2) in the downstream occupied portions of the Santa Ana River and Big Tujunga Creek, respectively.

(7) We delineated the upstream limits of proposed revised critical habitat in Mill, Gold Canyon, Delta Canyon, and Stone Canyon Creeks by identifying the upstream origin of sediment transport in these tributaries to provide stream and storm waters (PCE 1) necessary to transport sediments to maintain preferred substrate conditions (PCE 2) in the downstream occupied portions of the Santa Ana River and Big Tujunga Creek, respectively. Using aerial imagery, we determined the origin of sediment transport in each creek to be the upstream area where complex channels (such as alluvial and braided channels) containing a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs,

pools, and shallow sandy stream margins (PCE 2) are visible.

(8) We delineated the upstream and downstream extents of the proposed revised critical habitat in historically occupied areas of City Creek and the Santa Ana River above Seven Oaks Dam using the same methodology as described under Criterion 3 above by extending the boundary from the nearest occurrence polygon or point to either the point of a natural or manmade barrier or to the point where the in-stream gradient exceeds a 7 degree slope, both preventing further movement of the Santa Ana sucker.

When determining the critical habitat boundaries within this proposed revised rule, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures, because such lands lack essential features for the Santa Ana sucker. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of all such developed lands. Any such structures and the land under them inadvertently left inside critical habitat boundaries shown on the maps of this proposed revised critical habitat are excluded by text in this proposed revised rule. Therefore, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no destruction or adverse modification unless the specific action may affect adjacent critical habitat.

Summary of Changes From Previously Designated Critical Habitat

The areas identified in this proposed rule constitute a revision of the areas designated as critical habitat for the Santa Ana sucker on January 4, 2005 (70 FR 426). In the 2005 final rule, we designated 8,305 ac (3,361 ha) of critical habitat in Units 2 and 3 in Los Angeles County. In the 2005 final rule, we removed all of Subunit 1A (Northern Prado Basin; 3,535 ac (1,431 ha)) and Subunit 1B (Santa Ana Wash; 8,174 ac (3,308 ha)) in San Bernardino County from the critical habitat designation (see below for additional discussion), and excluded the remainder of Unit 1 (15,414 ac (6,238 ha)) in San Bernardino, Riverside, and Orange Counties under Section 4(b)(2) of the Act. In this proposed revised rule, we propose to designate a total of 9,605 ac (3,887 ha) in San Bernardino, Riverside, Orange, and Los Angeles Counties, as critical habitat for the Santa Ana sucker. Of this total, the Secretary is considering exercising his discretion under Section 4(b)(2) of the Act to

exclude 5,472 ac (2,214 ha) in Subunits 1B and 1C (the areas roughly corresponding to that portion of Unit 1 excluded under Section 4(b)(2) in the 2005 final rule) in San Bernardino, Riverside, and Orange Counties. We also

propose to designate 1,900 ac (768 ha) in Subunit 1A [this area corresponds roughly to the area identified as Subunit 1B (Santa Ana Wash) in the 2005 final rule and determined to be “nonessential” and removed from

critical habitat in the final rule]. Table 1 below outlines the changes in areas in each unit or subunit between the 2005 final critical habitat rule and this proposed revised critical habitat rule.

TABLE 1. A COMPARISON OF THE AREAS [IN ACRES (AC) (HECTARES (HA))] IDENTIFIED AS CONTAINING FEATURES ESSENTIAL TO THE CONSERVATION OF THE SANTA ANA SUCKER IN THE 2005 FINAL CRITICAL HABITAT (FCH) DESIGNATION AND THIS 2009 PROPOSED REVISED CRITICAL HABITAT (PRCH) DESIGNATION. (VALUES IN THIS TABLE MAY NOT SUM DUE TO ROUNDING.)

County	2005 FCH		2009 PRCH		Difference (2009 PRCH minus 2005 FCH)
	Unit/Subunit	Area containing essential features	Unit/Subunit	Area containing es- sential features	
San Bernardino	Subunit 1A: 3,535 ac (1,431 ha) deter- mined to be non- essential and re- moved from 2005 designation.	0 ac (0 ha)	Not proposed	0 ac (0 ha)	0 ac (0 ha)
	Subunit 1B: 8,174 ac (3,308 ha) deter- mined to be non- essential and re- moved from final 2005 designation.	0 ac (0 ha)	Subunit 1A	1,900 ac (768 ha)	1,900 ac (768 ha)
San Bernardino and Riverside	Unit 1: excluded under section 4(b)(2) of the Act.	15,414 ac (6,238 ha)	Subunit 1B	4,705 ac (1,903 ha)	-9,942ac (-4,023ha)
Riverside and Orange			Subunit 1C	767 ac (311 ha)	
Los Angeles	Unit 2	5,765 ac (2,333 ha)	Unit 2	1,000 ac (405 ha)	- 4,765 ac (-1,928 ha)
	Unit 3	2,540 ac (1,028 ha)	Subunit 3a	1,189 ac (481 ha)	-1,307 ac (529 ha)
			Subunit 3b	44 ac (18 ha)	
Totals	—————	31,893 ac ³ (12,907 ha)	—————	9,605 ac (3,887 ha)	-14,114 ac (-5,712 ha)

As described below, some areas designated in the 2005 final rule are not being proposed as critical habitat in this proposed revised rule. Also, some areas are being proposed as critical habitat that were omitted from the 2005 final rule because we have subsequently concluded that these areas are essential to the conservation of the species. These changes resulted in an overall addition of 1,300 acres in this proposed revised rule from the 2005 final designation but a reduction of approximately 14,114 ac (5,712 ha) from the number of acres identified as essential in the 2005 final rule. These differences primarily resulted from the following changes to all of the units included in this proposed revised rule, as well as unit-specific revisions discussed below.

(1) Enhanced resolution of aerial imagery allowed us to improve our mapping methodology to more accurately define the critical habitat boundaries and to better represent those areas that possess the physical and biological features essential to the conservation of the species. In the 2005 final rule, we used a 100-meter grid to delineate critical habitat. In this proposed revised rule, we delineated areas that contain the PCEs using current aerial imagery (see **Criteria Used To Identify Critical Habitat** section of this proposed revised rule). This revised mapping method resulted in a significant overall decrease in the areas deemed essential and included in the proposed revised critical habitat boundaries. However, even with more

refined mapping methods, we acknowledge the possibility that, due to mapping, data, and resource constraints, there may be some undeveloped areas mapped as critical habitat that do not contain the PCEs.

(2) We revised the criteria used to identify critical habitat in the Santa Ana River, the San Gabriel River, and Big Tujunga Creek. The revised criteria allowed us to more precisely delineate the upstream boundaries of areas determined to contain the physical and biological features essential to the conservation of the species. We described the criteria and methods we used to identify and delineate the areas that we are proposing as critical habitat in more detail than we did in the 2005 critical habitat designation to ensure

that the public better understands why the areas are being proposed as critical habitat (see **Criteria Used To Identify Critical Habitat** section of this proposed revised rule for a detailed discussion).

(3) We reevaluated areas included in the 2005 final critical habitat designation to determine if those areas contain the physical and biological features essential to the conservation of the Santa Ana sucker or are otherwise essential to the conservation of the species. As a result, some areas designated as Santa Ana sucker critical habitat in 2005 have been removed from this proposed revised rule (as described below) because they do not contain the physical and biological features required by the Santa Ana sucker and are not otherwise essential to the species' conservation.

Major revisions in each unit include the following:

Unit 1: Santa Ana River (San Bernardino, Riverside, and Orange Counties)

(1) In the 2005 critical habitat rule, we excluded all of Unit 1 (15,414 ac (6,238 ha)) from final critical habitat under section 4(b)(2) of the Act. In this revised proposed rule, we are proposing to designate a total of 5,472 ac (2,214 ha) as critical habitat in Subunits 1B and 1C. Subunits 1B and 1C correspond roughly to Unit 1 in the 2005 final rule. The 9,942-ac (4,023-ha) difference between the area identified as Unit 1 in the 2005 final rule and Subunits 1B and 1C in this proposed revised rule is primarily due to the following revisions:

(a) In the 2005 critical habitat rule, numerous tributaries and channels that drain into the Santa Ana River were included in Unit 1., which was excluded in that rule. In this revised proposed rule, we removed from Subunits 1B and 1C (the area roughly corresponding roughly to Unit 1 in the 2005 final rule) the following tributaries and channels (because these areas do not contain the physical and biological features essential to the conservation of the species (from North to South).

- 1.2 mi (1.9 km) urban drainage through Lake Evans;
- 1.3 mi (2.1 km) urban drainage through Hole Lake;
- 0.9 mi (1.4 km) urban drainage (north side of the Santa Ana River (SAR), east of Pedley);
- 2.3 mi (3.7 km) urban drainage (north side of SAR, west of Pedley);
- 1.0 mi (1.5 km) urban drainage up Lucretia Avenue;
- 0.3 mi (0.47 km) urban drainage up Norco Rd. near California Rehabilitation Center;

- 2.1 mi (3.4 km) of Temescal Wash north of Corona Municipal Airport;

- 0.9 mi (1.5 km) urban drainage north of Temescal Wash; and

- 1.0 mi (1.7 km) urban drainage south of Corona Municipal Airport.

(b) In the 2005 final critical habitat rule, the Prado Basin where Chino and Temescal Creeks and the Santa Ana River converge was included in Unit 1, which was excluded in that final rule. In this revised proposed rule, we removed 4,476 ac (1,811 ha) of the Prado Basin where Chino and Temescal Creeks and the Santa Ana River converge because these areas do not contain the physical and biological features essential to the conservation of the species.

(2) In the 2005 final rule, we removed all of Subunit 1B (Santa Ana Wash; 8,174 ac (3,308 ha)) from critical habitat because we determined this area to be "nonessential." We have revisited that determination and conclude that portions of the area identified as Subunit 1B in the 2005 rule are essential for the conservation of the Santa Ana sucker. Creeks and rivers in Subunit 1B provide stream and storm waters (PCE 1) required to transport sediments that are necessary to maintain preferred substrate (PCE 2) conditions in occupied portions in the Santa Ana River. These waters are critical to maintaining habitat for populations of Santa Ana sucker in the Santa Ana River, one of only three geographical areas where the listed entity survives. Protecting existing habitat on which the Santa Ana River populations depend is essential for the recovery of this species. Based on our reevaluation of this area, we are proposing to designate 1,626 ac (658 ha) in City and Mill Creeks and the Santa Ana River (below Seven Oaks Dam) as part of Subunit 1A, which composes a portion of Subunit 1B in the 2005 final rule.

Some portions of the Santa Ana Wash area identified as part of Subunit 1B in the 2005 rule do not contain the physical and biological features essential to the conservation of the species, and we have not included them as part of proposed Subunit 1A. Also, as part of Subunit 1A of this proposed revised rule, we are proposing to designate a 273-ac (110-ha) area of the Santa Ana River above the Seven Oaks Dam. This area has not been included in any previous proposed or final critical habitat designations for the Santa Ana sucker (see **Critical Habitat Units, Subunit 1A: Upper Santa Ana River** section of this proposed revised rule for a detailed discussion).

Unit 2: San Gabriel River (San Bernardino County)

(1) In the 2005 critical habitat rule, we designated 5,765 ac (2,333 ha) as critical habitat in Unit 2. In this proposed revised rule, we are proposing to designate 1,000 ac (405 ha) as critical habitat in Unit 2 (area corresponds roughly to Unit 2 in the 2005 final rule). The 4,765-ac (1,928-ha) reduction in Unit 2 from the 2005 final rule is primarily due to the following revisions:

(a) In this proposed revised rule, we removed the upstream sections of the following creeks/rivers, designated in the 2005 final rule, because based on our calculations, the slope of these upstream sections exceeds 7 degrees and, therefore, we determined these areas do not contain the physical and biological features essential to the conservation of the species (see Criterion 3 in the **Criteria Used To Identify Critical Habitat** section above for a detailed discussion of our slope calculations and assumptions):

- 2.9 mi (4.60 km) of Big Mermaids Canyon Creek;
- 0.5 mi (0.77 km) of Bear Canyon Creek;
- 0.4 mi (0.60 km) of West Fork of Bear Creek;
- 1.6 mi (2.61 km) of North Fork of the San Gabriel River;
- 0.1 mi (0.19 km) of Bichota Canyon Creek;
- 1.9 mi (3.07 km) of Cattle Canyon Creek; and
- 0.3 mi (0.42 km) of Cow Canyon Creek.

While these unoccupied upstream areas do provide pathways to transport water (PCE 1) and sediments necessary to maintain preferred substrates (PCE 2), we determined that the areas within the geographical area occupied by the species in the San Gabriel River at the time of listing and currently occupied are adequate for the conservation of the species in this portion of its range (see **Criteria Used To Identify Critical Habitat** above).

(b) In this proposed revised rule, we removed the entire extent of Shoemaker Canyon Creek [0.99 mi (1.59 km)], designated in the 2005 final rule, because, based on our calculations, the slope of this creek exceeds 7 degrees and therefore, we determined this area does not contain the physical and biological features essential to the conservation of the species (see Criterion 3 in the **Criteria Used To Identify Critical Habitat** section above for a detailed discussion of our slope calculations and assumptions).

(c) In this proposed revised rule, we removed the entire extent of Burro

Canyon Creek [0.74 mi (1.19 km)], designated in the 2005 final rule, because habitat in this creek has been degraded due the operation of a mine upstream and does not contain the physical and biological features essential to the conservation of the species.

(2) We are proposing to extend the upstream boundary of the East Fork of the San Gabriel River approximately 0.85 mi (1.37 km) from the upstream end of an occurrence polygon to the point near the Bridge-of-No-Return. In the 2005 final rule, we acknowledged that this upstream area is essential to the conservation of the Santa Ana sucker, but since the area had not been proposed as critical habitat or delineated on the map or the legal description for this unit, it could not be included in the final rule (70 FR 428).

Unit 3: Big Tujunga Creek (San Bernardino County)

(1) In the 2005 critical habitat rule, we designated 2,540 ac (1,028 ha) as critical habitat in Unit 3. In this 2009 proposed revised rule, we are proposing to designate 1,233 ac (499 ha) as critical habitat in two subunits, Subunits 3A and 3B, which correspond roughly to Unit 3 in the 2005 final rule. Subunit 3A contains the mainstem of Big Tujunga Creek from Hansen Dam to Big Tujunga Dam, and Subunit 3B contains three unoccupied tributaries to Big Tujunga Creek: Gold Canyon, Delta Canyon, and Stone Canyon Creeks. The 1,307-ac (529-ha) reduction in Unit 3 from the 2005 final rule is primarily due to the following revisions:

(a) In this proposed revised rule, we removed a 0.26 mi (0.42 km) upstream section of Delta Canyon Creek (Subunit 3B) and a 0.13 mi (0.21 km) upstream section of Stone Canyon Creek (Subunit 3B), both designated in the 2005 final rule, because these areas appear to be above the origin of sediment transport

in these creeks and not essential to the conservation of the species (see Criterion 7 in the **Criteria Used To Identify Critical Habitat** section above for a discussion of origin of sediment transport).

(b) We are proposing to designate additional portions of Gold Canyon Creek (Subunit 3B) by extending the upstream boundary of the creek by approximately 0.29 mi (0.47 km) from the 2005 final critical habitat boundary to capture the upstream origin of sediment transport for this creek, an area we determined is essential to the conservation of the species (see Criterion 7 in the **Criteria Used To Identify Critical Habitat** section above for a discussion of origin of sediment transport).

(c) We propose to designate approximately 160 ac (65 ha) of the privately owned Angeles National Golf Club in Subunit 3A. We are proposing to designate only the alluvial floodplain and multiple low-flow channels that traverse the golf course. However, due to the scale of the habitat areas containing the PCEs within the golf course and the current GIS mapping techniques, we are unable to map precisely only those areas containing the physical and biological features essential to the conservation of the species. Therefore, the entire golf course is mapped as proposed critical habitat. However, permanent structures and facilities associated with the golf course (such as the buildings, and fairways and greens outside of the floodplain) do not contain the PCEs and are therefore not considered critical habitat.

The majority of this area was not included in the 2005 final critical habitat designation. However, this area includes the alluvial floodplain and multiple low-flow channels that traverse the golf course, which lies between the confluence of Big Tujunga and Haines

Creeks. Stream and storm waters from Big Tujunga Creek transport sediments necessary to maintain preferred substrate conditions (PCE 2) within Haines Creek. These waters flow through the golf course on an irregular basis (i.e., in 2 of the 5 years since the course was opened). Both creeks discharge into occupied habitat downstream, including a conserved habitat area, which supports the Santa Ana sucker and two other native fishes. Therefore, we believe this area contains the features essential to the conservation of the species because it provides for sediment transport (PCE 2) into the downstream conserved habitat area.

Proposed Revised Critical Habitat Designation

We are proposing three units as critical habitat for the Santa Ana sucker. The critical habitat areas we describe below constitute our best assessment at this time of areas that meet the definition of critical habitat for the Santa Ana sucker. Table 2 identifies the approximate area of each proposed critical habitat unit by land ownership. These units, if finalized, will replace the current critical habitat designation for the Santa Ana sucker in 50 CFR 17.96(a). The critical habitat areas we describe below constitute our best assessment of (1) areas determined to be within the geographical area occupied by the species at the time of listing and currently occupied that contain the physical and biological features which may require special management considerations or protection and (2) areas that are not within the geographical area occupied by the species at the time of listing and are not currently occupied but that are essential to the conservation of the species (please see **Criteria Used To Identify Critical Habitat** section above for a discussion of geographical area).

TABLE 2. AREA ESTIMATES (ACRES (AC) AND HECTARES (HA)) AND LAND OWNERSHIP FOR THE SANTA ANA SUCKER PROPOSED REVISED CRITICAL HABITAT. VALUES IN THIS TABLE MAY NOT SUM DUE TO ROUNDING.

Unit	County	Ownership			Total Area
		Federal	State or Local Government	Private	
Unit 1: Santa Ana River					
Subunit 1A: Upper Santa Ana River	San Bernardino	273 ac (110 ha)	95 ac (38 ha)	1,532 ac (620 ha)	1,900 ac (768 ha)
Subunit 1B: Santa Ana River	San Bernardino and Riverside	13 ac (5 ha)	2,390 ac (967 ha)	2,301 ac (931 ha)	4,704 ac ¹ (1,903 ha)
Subunit 1C: Lower Santa Ana River	Riverside and Orange	0 ac (0 ha)	56 ac (23 ha)	711 ac (288 ha)	767 ac ¹ (311 ha)

TABLE 2. AREA ESTIMATES (ACRES (AC) AND HECTARES (HA)) AND LAND OWNERSHIP FOR THE SANTA ANA SUCKER PROPOSED REVISED CRITICAL HABITAT. VALUES IN THIS TABLE MAY NOT SUM DUE TO ROUNDING.—Continued

Unit	County	Ownership			Total Area
		Federal	State or Local Government	Private	
	Unit 1 Totals	286 ac (116 ha)	2,541 ac (1,028 ha)	4,544 ac (1,839 ha)	7,372 ac (2,982 ha)
Unit 2: San Gabriel River	Los Angeles	917 ac (371 ha)	0 ac (0 ha)	83 ac (34 ha)	1,000 ac (405 ha)
Unit 3: Big Tujunga Creek					
Subunit 3A	Los Angeles	242 ac (98 ha)	0 ac (0 ha)	947 ac (383 ha)	1,189 ac (481 ha)
Subunit 3B	Los Angeles	44 ac (18 ha)	0 ac (0 ha)	0 ac (0 ha)	44 ac (18 ha)
	Unit 3 Totals	286 ac (116 ha)	0 ac (0 ha)	947 ac (383 ha)	1,233 ac (499 ha)
	Total	1,489 ac (603 ha)	2,541 ac (1,028 ha)	5,573 ac (2,255 ha)	9,605 ac (3,887 ha)

Critical Habitat Units

Presented below are brief descriptions of all units, and reasons why they meet the definition of critical habitat for the Santa Ana sucker.

Unit 1: Santa Ana River

Unit 1 is located in San Bernardino, Riverside, and Orange Counties and consists of three subunits totaling 7,372 ac (2,893 ha) of Federal (U.S. Army Corps of Engineers and USFS), local government, and private land (Table 2).

Subunit 1A: Upper Santa Ana River

Subunit 1A is located near the Cities of Highland, Mentone, and Redlands in San Bernardino County, California. This subunit includes two separate areas: One includes 7 mi (12 km) of City Creek (measured from its confluence with the Santa Ana River), 12 mi (19 km) of Mill Creek (measured from its confluence with the Santa Ana River), and 10 mi (17 km) of the Santa Ana River from below the Seven Oaks Dam to near Tippecanoe Avenue. The other area of this subunit includes 7 mi (12 km) of the Santa Ana River above Seven Oaks Dam (measured from the Seven Oaks Dam). The lower portion of the Santa Ana River below its confluence with City and Mill Creeks is adjacent to urban development, while the upstream portions of City and Mill Creeks and the Santa Ana River above Seven Oaks Dam are in the San Bernardino National Forest. Lands in this subunit are under Federal (USFS and Bureau of Land Management (BLM)) (273 ac (110 ha)), State/Local (95 ac (38 ha)), and private (1,532 ac (619 ha)) ownership (Table 2).

Subunit 1A is not within the geographical area of the species occupied at the time of listing and is not currently occupied. However, while City Creek and the Santa Ana River above Seven Oaks Dam are not currently occupied, these areas were historically occupied based on a 1982 California Natural Diversity Database record and a 1940 Museum of Zoology Fish Collection database record, respectively, and provide suitable habitat conditions for the Santa Ana sucker. Mill Creek is not known to be historically or currently occupied and does not provide suitable habitat conditions for the Santa Ana sucker. We determined that Mill and City Creeks are essential to the conservation of the species because these creeks provide greater quantities of stream and storm waters (PCE 1) relative to other creeks in the river system, necessary to transport sediments necessary to maintain preferred substrate (PCE 2) conditions in occupied portions in the Santa Ana River.

Although areas of the upper Santa Ana River and its associated tributaries generally dry during the summer, portions of the upper Santa Ana River system have a higher gradient and a greater percentage of gravel and cobble substrate than the occupied areas that are downstream (Baskin, pers. comm. 2004). Suckers spawn over gravel substrates, where their eggs can adhere to gravel before hatching into larvae. Winter flows from upstream areas annually replenish this substrate and clean sand from it (Baskin, pers. comm. 2004; Haglund, pers. comm. 2004;

NOAA 2003). Additionally, suckers feed by scraping algae, insects, and detritus from gravel and cobble. Therefore, the upstream source of spawning and feeding substrates (gravel and cobble) are essential to the reproductive ability and development of the sucker in the downstream occupied reaches (Baskin, pers. comm. 2004; Haglund, pers. comm. 2004). City and Mill Creeks are particularly essential to the conservation of the species since the Seven Oaks Dam has reduced the transfer of sediment and altered the natural flow in the downstream, occupied areas of the Santa Ana River.

We also determined that City Creek and the Santa Ana River above Seven Oaks Dam contain features essential to the conservation of the species (PCEs 1, 2, and 6) and are essential to the conservation of the species to provide habitat for future reintroduction of the species. Given its small population size and restricted range, the Santa Ana sucker is at high risk of extirpation from stochastic events, such as disease or fatal water contamination levels, especially in the Santa Ana River. Maintaining areas of suitable habitat on the Santa Ana River and City Creek into which Santa Ana suckers could be reintroduced is essential to decrease the risk of extinction of the species resulting from stochastic events and provide for the species' eventual recovery. While currently not occupied, both City Creek and the Santa Ana River above Seven Oaks Dam were historically occupied. The upper reaches of City Creek are considered to be high quality habitat (OCWD 2009) and the upper reaches of

both City Creek and the Santa Ana River above Seven Oaks Dam are within the San Bernardino National Forest and therefore likely provide habitat that is superior, with fewer severe threats, to that in the occupied sections downstream in the Santa Ana River. Given the barriers to fish movement that exist downstream of these reintroduction areas, maintenance of populations in City Creek and the Santa Ana River above Seven Oaks Dam would likely require active management to transport individuals back to these areas in the event they are flushed downstream during a flood event.

Subunit 1B: Santa Ana River

Subunit 1B is located near the cities of Colton and Rialto in San Bernardino County and the cities of Riverside, Norco, and Corona in Riverside County, California. This subunit includes roughly 22.4 mi (36.0 km) of the mainstem of the Santa Ana River from near Tippecanoe Avenue in San Bernardino County to the Prado Dam and Flood Control Basin in Riverside County. This subunit also includes sections of the following tributaries (distances are measured from the mainstem of the Santa Ana River): 1,647 ft (502 m) of the Rialto Drain and 2,413 ft (736 m) Sunnyslope Creek. Lands within this subunit are under Federal (Department of Defense - U.S. Army Corps of Engineers) ((13 ac (5 ha)), State/Local (2,390 ac (967 ha)), and private (2,300 ac (932 ha)) ownership (Table 2). The Secretary is considering exercising his discretion to exclude all lands in this subunit from the final designation under section 4(b)(2) of the Act (see **Exclusions** section for discussion).

All areas within this subunit are within the geographical area occupied by the species at the time of listing, are currently occupied, and contain features essential for the conservation of the species. Recent surveys have found Santa Ana suckers at various locations in the mainstem of the Santa Ana River between the Rialto Drain and the Prado Dam (Baskin *et al.*, 2005, pp. 1-2; Swift 2009, pp. 1-3). Santa Ana suckers also occupy the Rialto Drain and Sunnyslope Creek at least during portions of the year (Chadwick Ecological Consultants, Inc. 1996, p. 9; Swift 2000, p. 8; Swift 2001, p. 45). At this time, the low-flow channel of the Santa Ana River has moved away from its confluence with Sunnyslope Creek. In the absence of flows, accumulated sediments and vegetation are preventing access to this creek by Santa Ana suckers (OCWD 2009, pp. 5-31). However, a connection between the mainstem and Sunnyslope

Channel would likely be reestablished following a high flow event. Santa Ana suckers were found upstream of the Rialto Drain in the vicinity of the La Cadena Bridge drop-structure during spring-time flow releases from the Seven Oaks Dam in 2005 (Baskin *et al.* 2005, p. 1). Rialto Drain and Sunnyslope Creek are the only tributaries to the Santa Ana sucker in this subunit where Santa Ana sucker spawning has been documented. However, the distribution of fry and juvenile fish observed in various locations within the mainstem implies that spawning areas other than the Rialto Drain and Sunnyslope Creek likely exist within the Santa Ana River.

In the mainstem of the Santa Ana River, dry-season flows are dependent primarily upon discharges from tertiary wastewater treatment plants and upwelling of ground water within the Unit (California Regional Water Quality Control Board 1995, pp. 1-4 through 1-8; Chadwick and Associates, Inc. 1992, p. 20), while storm-season flows are regulated by the upstream Seven Oaks Dam. The discharge of treated wastewater effluent maintains stream volume and velocity within the mainstem and the Rialto Drain to maintain habitat patches that support the riverine environment (PCE 1) necessary for the Santa Ana sucker. The discharge of treated wastewater effluent along with the upwelling of groundwater also lowers ambient water temperature to some extent in portions of the Santa Ana River (Chadwick and Associates, Inc. 1992, p. 26) (PCE 5), and rising water in the Riverside Narrows feeds several small tributaries to the Santa Ana River, including the Sunnyslope Creek (California Regional Water Quality Control Board 1995, pp. 1-4 through 1-8; Swift 2000, p. 6) (PCE 1). Rialto Drain and Sunnyslope Creek contain gravel and cobble substrate, with some sand accumulation along channel edges, deep pools, and a riparian overstory (PCEs 2 and 6). Therefore, these areas provide areas for spawning and rearing of fry and juvenile fish (PCE 1) and shallow-water refuge for Santa Ana suckers during storms and during periods of high ambient temperatures (PCE 6). Almost all other tributaries to the Santa Ana River in this subunit have been channelized, and while these tributaries continue to provide some water and storm water flows to the mainstem, the majority of this water is untreated drainage from surrounding urban areas. Also, with the exception of their confluence with the mainstem, it appears these other tributaries to the Santa Ana River no

longer provide suitable habitat for the species.

In addition to reduced water quality and altered hydrology, habitat within this subunit has been impacted by the construction of several bridges spanning the Santa Ana River and grade-control structures that fragment habitat for the Santa Ana sucker. Therefore, the physical and biological features essential to the conservation of the species in this subunit may require special management considerations or protection to address threats associated with water diversion, alteration of stream channels and watersheds, and reduction of water quantity and quality associated with urban development. Please see **Special Management Considerations or Protection** for discussion of the threats to the Santa Ana sucker habitat.

Subunit 1C: Lower Santa Ana River

Subunit 1C is located near the City of Corona in Riverside County and the cities of Anaheim and Yorba Linda in Orange County, California. This subunit includes 10.7 mi (17.2 km) of the Santa Ana River mainstem from below the Prado Dam outlet in Riverside County to 0.6 mi (1.03 km) downstream of the State Route 90 (Imperial Highway) Bridge in Orange County. While tributaries to the Santa Ana River in this subunit likely provide water and storm water flows necessary to maintain preferred substrate conditions in occupied portions of the river that may be essential to the conservation of the species, we do not currently have information on the extent of their contribution and therefore are not proposing any tributaries to the Santa Ana River in Subunit 1C as critical habitat. However, we are seeking additional information on the sediment contribution from tributaries to the lower Santa Ana River in Subunit 1C (see **Public Comments** section above). Lands within this subunit are under State/Local (56 ac (23 ha)) and private (711 ac (288 ha)) ownership (Table 2). The Secretary is considering exercising his discretion to exclude all lands in this subunit under section 4(b)(2) of the Act from the final designation (see **Exclusions** section for discussion).

All areas in Subunit 1C are within the geographic area occupied by the species at the time of listing, are currently occupied, and contain the features essential for the conservation of the species. This species has been found in the vicinity of the Gypsum Canyon Bridge, Weir Canyon drop structure, and the Imperial Highway overpass (Baskin and Haglund 2001, pp.1-5; Chadwick Ecological Consultants, Inc. 1996, p. 9;

Swift 2000, pp. 15-20). More recently suckers were collected just below Prado Dam (SMEA 2008, p. 1).

Upstream water flows to Subunit 1C are primarily maintained by releases from Prado Dam, a structure that has altered the hydrology of the system, resulting in fluctuating water (PCE 1) and sediment (PCE 2) releases. The numerous tributaries flowing into the Santa Ana River below Prado Dam appear to contribute little dry-season flow. Releases from Prado Dam maintain perennial stream flow in the Santa Ana River which in turn maintains well-defined banks supporting native riparian vegetation (PCE 6) and deep pools (PCE 2). However, since the velocity is typically high, water released below the dam is often turbid. During storms, water containing fine sediments passes over or through a dam, and because sediments remain suspended within the reservoir pool for several months, downstream turbidity can be increased (PCE 4) (Ally 2004a, p. 36). Releases of turbid water could also degrade downstream foraging and spawning habitat if areas become covered by fine silts. The operation of Prado Dam also traps larger sediments therefore decreasing the deposition of gravel and cobble needed to maintain spawning and foraging habitat below the dam.

In addition to reduced water quality and altered hydrology, habitat within this subunit has been impacted by the construction of several bridges spanning the Santa Ana River. Therefore, the physical and biological features essential to the conservation of the species in this subunit may require species management considerations or protection to address threats from water diversion, alteration of stream channels and watersheds, and reduction of water quantity and quality associated with urban development. Please see the **Special Management Considerations or Protection** section of this proposed rule for discussion of the threats to the Santa Ana sucker habitat.

Unit 2: San Gabriel River

Unit 2 consists of the West, North, and East Forks of the San Gabriel River upstream of the San Gabriel Reservoir, in Los Angeles County, California. This unit includes 9.3 mi (14.9 km) of the West Fork downstream of Cogswell Dam to the San Gabriel Reservoir, 3.2 mi (5.2 km) of the North Fork upstream from the confluence with the West Fork, and 10.4 mi (16.7 km) of the East Fork downstream of the Bridge-of-No-Return to the San Gabriel Reservoir. This unit also includes sections of the following tributaries (distances are measured from

the mainstem of the fork): 0.3 mi (0.5 km) of Big Mermaids Canyon Creek and 3.3 mi (5.3 km) Bear Canyon Creek, both tributaries of the West Fork; 0.2 mi (0.2 km) of the West Fork of Bear Canyon Creek, a tributary of Bear Canyon Creek; 1.5 mi (2.4 km) of Bichota Canyon Creek, a tributary of the North Fork; 3.8 mi (6.2 km) of Cattle Canyon Creek, a tributary of the East Fork; and 0.6 mi (0.9 km) of Cow Canyon Creek, a tributary of Cattle Canyon Creek. Lands within this unit are entirely within the Angeles National Forest and are under Federal (USFS) (917 ac (371 ha)) and private (83 ac (34 ha)) ownership (Table 2).

All areas in Unit 2 are within the geographical area occupied by the species at the time of listing, are currently occupied, and contain the features essential to the conservation of the species. In addition to surveys discussed in the listing rule (65 FR 19686; April 12, 2000) and in the previous designation of critical habitat for the Santa Ana sucker (70 FR 426; January 4, 2005), additional surveys have documented Santa Ana suckers in the West, North, and East Forks of the San Gabriel River and the following tributaries: Big Mermaids Canyon, Bear Canyon, Bichota Canyon, Cattle Canyon, and Cow Canyon Creeks (Ally 2004b, pp. 8–9, 14–15, 22, 24–25, 28; Ally 2004c, pp. 9–10, 13–14, 16–17; Haglund and Baskin 1992, p. 32; O'Brien 2009a, pp. 2-3; Tennant 2004, pp. 5–8; Tennant 2006, p. 3). The West, North, and East Forks of the San Gabriel River have one of the most intact native freshwater fish faunas in Southern California (Haglund and Baskin 2003, p. 7), have good water quality, and appear to support the highest abundance of Santa Ana suckers within the species' range.

This is the only unit that, overall, has a sediment transport and hydrological regime existing in a natural state (relative to the other two proposed critical habitat units). This unit supports a population of the Santa Ana sucker occurring within a relatively intact watershed that provides good water quality, supply, and sediment transport. This is the only extant population of Santa Ana suckers that is not chronically exposed to urban runoff or tertiary-treated wastewater discharges, and that has a regulated water supply (with the exception of the West Fork of the San Gabriel River).

Natural water flow in the North and East forks, and the tributaries included in this unit, is unimpeded by large-scale dams. However, water flows in the West Fork of the San Gabriel River are affected by Cogswell Dam, a structure that has altered the hydrology of the

system, resulting in fluctuating water (PCE 1) and sediment (PCE 2) releases. During its operational life, the Cogswell Reservoir has accumulated a large volume of sediment behind the dam that affects the quality of water released both through operations and unavoidable, uncontrolled leakage (Ally 2004a, p. 1). During the summer months, the only flow into the West Fork of the San Gabriel River is the result of leakage from the dam, and because flow velocities are low, sediments do not travel far downstream (Ally 2004a, p. 36). During storms, water containing fine sediments passes over or through the dam, and because sediments remain suspended within the reservoir pool for several months, downstream turbidity can be increased over turbidity associated with natural conditions (PCE 4) (Ally 2004a, p. 36). Accidental high water releases (with heavy sediment loads) from Cogswell Reservoir have devastated the West Fork of the San Gabriel River several times in the past (Haglund and Baskin 1992, p. 57; Moyle 2002, p. 184; Moyle *et al.* 1995, p. 203; Moyle and Yoshiyama 1992, p. 204). Such rapid increases in flow volume and velocity may disrupt Santa Ana sucker spawning and flush juvenile Santa Ana suckers into areas with unsuitable habitat.

Along with impacts associated with the operation of Cogswell Dam, habitat within this unit has also been impacted by recreational activities, including OHV use and the construction of artificial recreational dams. Authorized OHV activity occurs in the USFS's San Gabriel Canyon OHV Area at the junction of the East, North, and West Forks. The use of the river as an OHV recreational area may result in adverse effects to the Santa Ana sucker by increasing turbidity (PCE 4); disrupting the physical structure of habitat for spawning, resting, and feeding (PCE 2); and introducing pollutants (such as oil and gas) into streams (PCE 4) (65 FR 19686; April 12, 2000).

To minimize impacts to the Santa Ana sucker from OHV use, the USFS has implemented protection measures (such as establishing designated stream crossings and limiting the number of stream crossings in the OHV area) (US FWS 2005, p. 8). The construction of "recreational" dams degrades in-stream and possibly bank habitat, increases turbidity (PCE 4), and disrupts sediment transport. Over 500 recreational dams were found in 2001 and 2002 within a 7.1 mi (11.4 km) reach of the East Fork of the San Gabriel River (Ally 2001, p. 2.; Ally 2003, pp. 1–2). Recreational dams also reappear on a frequent basis in the San Gabriel Canyon OHV Area in

the North Fork of this river as well (USFS 2008, p. 6). Therefore, the physical and biological features essential to the conservation of the species in this unit may require species management considerations or protection to address threats associated with water diversion, alteration of stream channels and watersheds, and human recreational activities. Please see **Special Management Considerations or Protection** section of this proposed rule for discussion of the threats to the Santa Ana sucker habitat.

Unit 3: Big Tujunga Creek

Unit 3 includes a total of 1,233 ac (499 ha) of land and consists of two subunits located in Los Angeles County, California. Lands within this unit are under Federal (USFS) (286 ac (116 ha)) and private (946 ac (384 ha)) ownership (Table 2).

Subunit 3A: Big Tujunga and Haines Creeks

Subunit 3A includes an approximately 13 mi (21 km) stretch of Big Tujunga Creek (a tributary of the Los Angeles River) between the Big Tujunga Dam and Reservoir and Hansen Dam and Flood Control Basin. This subunit also includes Haines Creek, a small stream within the floodplain of Big Tujunga Creek. The 1,189 ac (481 ha) of land within this subunit is under Federal (USFS) (242 ac (98 ha)) and private (946 ac (384 ha)) ownership (Table 2).

All areas of Subunit 3A are within the geographical area occupied by the species at the time of listing, are currently occupied, and contain the features essential to the conservation of the species. In addition to surveys cited in the listing rule (65 FR 19686; April 12, 2000) and in the previous designation of critical habitat for the Santa Ana sucker (70 FR 426; January 4, 2005), additional surveys have documented Santa Ana suckers in Big Tujunga Creek between Delta Flats and Vogel Flats (Hagund and Baskin 2001, pp. 2-4; O'Brien 2009b, p. 2), and in the Big Tujunga Wash Mitigation Bank, including Haines Creek (Chambers Group 2004, pp. 6-3, 6-4). Some speculation exists that Big Tujunga Creek between the Big Tujunga Dam and Big Tujunga Canyon Road Bridge may no longer be occupied by this species. Swift (2002, p. 3) speculates that streambed characteristics in three places upstream of Big Tujunga Canyon Road Bridge may prevent upstream movement or make movement possible only during rare high flow events. We currently consider this area occupied because Santa Ana suckers have been

documented near and downstream of the Big Tujunga Canyon Road Bridge and because we do not have evidence of the existence of barriers permanently precluding upstream movement to the dam. Additionally, the upstream sections of Big Tujunga Creek are also important for providing stream and storm waters necessary to transport sediments to maintain preferred substrate conditions (PCE 2) for the Santa Ana sucker in occupied areas downstream. We seek additional information on the occurrence of the Santa Ana sucker, habitat conditions, and the presence of potential permanent barriers to movement between the Big Tujunga Canyon Road Bridge and the Big Tujunga Dam (see **Public Comments** section above).

A section of Haines Creek upstream of the Foothill Bridge traverses the Angeles National Golf Course. This 160 ac (65 ha), privately owned golf course lies between the confluence of Big Tujunga and Haines Creeks and includes the alluvial floodplain and multiple low-flow channels that traverse the golf course. Flow from the Big Tujunga Creek travels through the golf course into Haines Creek on an irregular basis (2 of the 5 years since the course has been open) and likely provides the only source of stream and storm waters necessary to transport sediments to maintain preferred substrate conditions (PCE 2) to Haines Creek and downstream to the Big Tujunga Wash Mitigation Bank (Swift 2009, p.1). Therefore, the alluvial floodplain and multiple low-flow channels that traverse the golf course are essential to the conservation of the species because they provide the primary (and potentially sole) source of stream and storm waters downstream into the Big Tujunga Wash Mitigation Bank that supports the Santa Ana sucker (see **Summary of Changes From Previously Designated Critical Habitat** section above for more discussion of the proposed revised designation on the Angeles National Golf Course).

The upstream portion of this subunit is within the Angeles National Forest and is therefore not exposed to the effects of urbanization. However, the downstream portion of Big Tujunga Creek between the Oro Vista Bridge and Hansen Dam is adjacent to existing urban development south of the creek, which has altered water flows transporting sediment (PCE 2) into the Big Tujunga Creek. Several tributaries (including the upper portion of Haines Creek) that flow into Big Tujunga Creek through the communities of Sunland and Tujunga have been channelized through urbanized areas for flood

control purposes. This channelization has eliminated habitat for the Santa Ana sucker, altered the hydrologic regime (PCE 1), and reduced the transport of sediments needed to maintain channel substrate conditions (PCE 2) in the occupied sections of Big Tujunga Creek.

Habitat in Subunit 3A has been altered due to the operation of the Big Tujunga Dam upstream and Hansen Dam downstream. All flows in the occupied reaches of Big Tujunga Creek are moderated by the operation of Big Tujunga Dam, which has eliminated flows along most of the creek during late summer and autumn of dry years (Palavido *et al.* 2008, p. 8), thereby reducing not only the amount of water (PCE 1) entering the system but also the amount of sediment (PCE 2) being transported downstream. During these dry periods, the Santa Ana sucker is restricted to an approximate 1 mi (1.6 km) section of the creek (Palavido *et al.* 2008, p. 8). At times, the creek can be reduced to a series of standing pools with only a trickle of flow between them (Swift 2002, p. 1), further isolating suckers (PCE 1). The operation of Big Tujunga Dam is the subject of an ongoing consultation between the Service and the USFS under section 7 of the Act. To minimize impacts to the species, a strategy is being developed with the objective of maintaining and enhancing Santa Ana sucker habitat within the lower Big Tujunga Creek (Mendez 2005, p. 1).

Habitat within this subunit has also been impacted by the construction of several bridges (such as the Foothill, Interstate-210, and Oro Vista bridges). The habitat within both Big Tujunga Creek and Haines Creek as they flow under the Foothill and Interstate-210 bridges is often temporarily fragmented (PCE 7) (Swift 2006a, p. 2). Hence, sufficient water and sediment transport are needed to maintain the stream channel substrate conditions required by the Santa Ana sucker in this area (PCEs 1, 2, and 7). The physical and biological features essential to the conservation of the species in this unit may require species management considerations or protection to address threats associated with water diversion, and alteration of stream channels and watersheds and human recreational activities. Please see **Special Management Considerations or Protection** section of this proposed rule for discussion of the threats to Santa Ana sucker habitat.

Subunit 3B: Gold, Delta, and Stone Canyon Creeks

Subunit 3B consists of three tributaries to Big Tujunga Creek

(measured from their confluence with the mainstem): a 1.89 mi (3.04 km) section of Gold Canyon Creek, a 0.79 mi (1.27 km) section of Delta Canyon Creek, and a 0.67 mi (1.08 km) section of Stone Canyon Creek. The 44 ac (18 ha) of land within this subunit is entirely within the Angeles National Forest and is entirely under Federal (USFS) ownership (Table 2).

These three tributaries are not within the geographical range of the species occupied at the time of listing and are not currently occupied. While we are not aware of any surveys for the Santa Ana sucker conducted in Gold Canyon, Delta Canyon, or Stone Canyon Creeks, it appears that the slope of Delta Canyon and Stone Canyon Creeks from near their confluence with Big Tujunga Creek is too steep to be passable by the Santa Ana sucker. The slope of Gold Canyon Creek from approximately 0.49 mi (0.8 km) from its confluence with Big Tujunga Creek also appears to be too steep to be passable by the Santa Ana sucker. Please see **Criteria Used To Identify Critical Habitat** section of this proposed revised rule for a discussion of how we determined the slope within these creeks.

These creeks are essential to the conservation of the species because they provide and transport sediment (PCE 2) and convey stream flows and flood waters (PCE 1) necessary to maintain habitat conditions for the downstream occupied areas of Big Tujunga Creek. The areas of these creeks at their confluence with Big Tujunga Creek also provide protective areas for juvenile Santa Ana suckers during high flow events, during periods of high ambient temperatures, and from predators (PCEs 1 and 6).

These tributaries are particularly essential to the conservation of the species given the extent to which the hydrology and the habitat of the downstream occupied section of Big Tujunga Creek has been altered and degraded due to the construction and operation of Big Tujunga Dam.

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 are not likely to destroy or adversely modify critical habitat. Decisions by the Fifth and Ninth Circuit Courts of Appeal have invalidated our definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir. 2004)

and *Sierra Club v. U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442F (5th Cir. 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the PCEs to be functionally established) to serve its intended conservation role for the species. Section 7(a)(2) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a species proposed for listing 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. 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)). The conservation recommendations in a conference report or opinion are advisory.

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act 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. As a result of this consultation, we document compliance with the requirements of section 7(a)(2) of the Act through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not

likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

An exception to the concurrence process referred to in (1) above occurs in consultations involving National Fire Plan projects. In 2004, USFS and BLM reached agreements with the Service to streamline a portion of the section 7 consultation process (BLM-ACA 2004, pp. 1–8; FS-ACA 2004, pp. 1–8). The agreements allow USFS and BLM the opportunity to make "not likely to adversely affect" determinations for projects implementing the National Fire Plan. Such projects include prescribed fire, mechanical fuels treatments (thinning and removal of fuels to prescribed objectives), emergency stabilization, burned area rehabilitation, road maintenance and operation activities, ecosystem restoration, and culvert replacement actions. The USFS and BLM will insure staff is properly trained, and both agencies will submit monitoring reports to the Service to determine if the procedures are being implemented properly and effects to endangered species and their habitats are being properly evaluated. As a result, we do not believe the alternative consultation processes being implemented as a result of the National Fire Plan will differ significantly from those consultations being conducted by the Service.

If we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. We define "reasonable and prudent alternatives" 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,
- Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,
- Are economically and technologically feasible, and
- Would, in the Director's opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying 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 we have listed a new species or subsequently designated critical habitat that may be affected, and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies may sometimes need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Federal activities that may affect the Santa Ana Sucker or its designated critical habitat will require section 7(a)(2) consultation under the Act. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit under section 10 of the Act from the Service) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) will also be subject to the section 7(a)(2) consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or permitted, do not require section 7(a)(2) consultations.

Application of the "Adverse Modification" Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or would retain its current ability for the physical and biological features to be functionally established. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for the Santa Ana sucker.

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, when carried out, funded, or authorized by a Federal agency, may adversely affect critical habitat and therefore should result in consultation for the Santa Ana sucker include, but are not limited to, the following:

(1) Actions that would alter the hydrology to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, impoundment, channelization, water diversion, removal of water from waterways, construction, licensing, relicensing, and operation of dams or other water impoundments.

(2) Actions that would significantly alter water quality to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, release of excess nutrients or heated effluents into the surface water or connected groundwater at a point source or by dispersed release (nonpoint).

(3) Actions that would significantly increase sediment deposition within the stream channel to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, excessive sedimentation from livestock grazing; road construction; timber harvest; off-road vehicle use; residential, commercial, and industrial development; and other watershed and floodplain disturbances.

(4) Actions that would significantly alter channel morphology or geometry to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, channelization, impoundment, road and bridge construction, mining and other removal of substrate, and destruction of riparian vegetation.

(5) Actions that would introduce, spread, or augment nonnative aquatic species into critical habitat to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, stocking for sport, biological control, or other purposes; aquaculture; and construction and operation of canals.

Exemptions

Application of Section 4(a)(3) of the Act

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete an integrated natural resource management plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

- An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;
- A statement of goals and priorities;
- A detailed description of management actions to be implemented to provide for these ecological needs; and
- A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108-136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: "The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation."

There are no Department of Defense lands with a completed INRMP within the proposed critical habitat designation.

Exclusions

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary must designate and revise critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any

particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the legislative history is clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

In considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If based on this analysis, we make this determination, then we can exclude the area only if such exclusion would not result in the extinction of the species.

When considering the benefits of inclusion for an area, we consider the additional regulatory benefits that area would receive from the protection from adverse modification or destruction as a result of actions with a Federal nexus; the educational benefits of mapping essential habitat for recovery of the listed species; and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat.

When considering the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation; the continuation, strengthening, or encouragement of partnerships; and implementation of a management plan that provides equal to or more conservation than a critical habitat designation would provide.

In the case of the Santa Ana sucker, the benefits of critical habitat include public awareness of the Santa Ana sucker and the features and specific areas essential to its conservation and in cases where a Federal nexus exists, increased habitat protection for the Santa Ana sucker due to the protection from adverse modification or destruction of critical habitat. In practice, a Federal nexus exists primarily on Federal lands or for projects undertaken or requiring authorization by a Federal agency.

When we evaluate the existence of a conservation plan when considering the benefits of exclusion, we consider a variety of factors, including but not limited to, whether the plan is finalized; how it provides for the conservation of

the essential physical and biological features; whether there is a reasonable expectation that the conservation management strategies and actions contained in a conservation plan will be implemented into the future; whether the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

After evaluating the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to determine whether the benefits of exclusion outweigh those of inclusion. If we determine that they do, we then determine whether exclusion would result in extinction. If exclusion of an area from critical habitat will result in extinction, we will not exclude it from the designation.

Conservation Plans—Exclusions Under Section 4(b)(2) of the Act

The benefits of excluding lands covered by conservation plans from critical habitat designation include relieving non-Federal parties of any additional regulatory burden that might be imposed by critical habitat. Many HCPs and conservation plans take years to develop, and upon completion, are consistent with recovery objectives for listed species that are covered within the plan area. Many conservation plans also provide conservation benefits to unlisted sensitive species. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine conservation (Wilcove and Chen 1998; p. 1407; Crouse *et al.* 2002; p. 720; James 2002, p. 271). Building partnerships and promoting voluntary cooperation of landowners and other non-Federal parties are essential to understanding the status of species on non-Federal lands, and are necessary to implement recovery actions such as reintroduction listed species, habitat restoration, and habitat protections.

Many landowners and other non-Federal parties derive satisfaction from contributing to endangered species recovery. We promote those private sector efforts through the Department of the Interior's Cooperative Conservation philosophy. Conservation agreements with non-Federal parties (safe harbor agreements, other conservation agreements, easements, and State and local regulations) enhance species conservation by extending species protections beyond those available through section 7 consultations. In the past decade, we encouraged non-Federal landowners and other parties to enter

into conservation agreements, based on a view that we can achieve greater species conservation through such partnerships than we can through regulatory methods (61 FR 63854, December 2, 1996).

Addition of a new regulatory requirement would remove a significant incentive for undertaking the time and expense of conservation planning. In fact, designating critical habitat in areas covered by an HCP or other conservation plan could result in the loss of some species' benefits if participants abandon the planning process, in part because of the strength of the perceived additional regulatory compliance that such a designation would entail. The time and cost of regulatory compliance for a critical habitat designation do not have to be quantified for them to be perceived as an additional Federal regulatory burden sufficient to discourage continued participation in developing plans targeting listed species' conservation.

A related benefit of excluding lands covered by approved HCPs or conservation plans from critical habitat designation is the unhindered, continued ability it gives us to seek new partnerships with future plan participants, including States, counties, local jurisdictions, conservation organizations, and private landowners, which together can implement conservation actions that we would be unable to accomplish otherwise.

We also note that all Federal actions that may affect listed species, including those covered by an Federally-approved conservation plan require consultation under section 7(a)(2) of the Act, which would include a review of the effects of all activities that might adversely impact the species under a jeopardy standard, including possibly significant habitat modification (see definition of "harm" at 50 CFR 17.3), even without the critical habitat designation.

The information provided in the previous section applies to the following discussions of the specific area the Secretary is considering for exclusion under section (4)(b)(2) of the Act. The Secretary is considering exercising his discretion to exclude lands covered by the Santa Ana Sucker Conservation Program from the final designation of critical habitat for the Santa Ana Sucker. Portions of the proposed critical habitat warrant consideration for exclusion from the proposed designation under section 4(b)(2) of the Act based on the partnerships, management, and protection afforded by this program. In this proposed revised rule, we are seeking input from the public as to

whether or not the Secretary should exclude this area from the final revised critical habitat designation. (Please see the **Public Comments** section of this proposed rule for instructions on how to submit comments). Below is a brief description of the Santa Ana Sucker Conservation Program and the lands proposed as critical habitat that are addressed by this program.

Santa Ana Sucker Conservation Program

We are considering exclusion of all lands in Subunit 1B (4,704 ac (1,903 ha)) and Subunit 1C (767 ac (311 ha)) under the Santa Ana Sucker Conservation Program (SAS Conservation Program) from the final revised critical habitat designation under section 4(b)(2) of the Act. The SAS Conservation Program encompasses the Santa Ana River and the lower reaches of its tributaries extending generally from Tippecanoe Avenue in San Bernardino County to Chapman Avenue in Orange County; a distance of approximately 31 mi (48.3 km) in San Bernardino, Riverside, and Orange Counties [Subunits 1B and 1C] (Santa Ana Watershed Project Authority 2008, pp. 13–18). The SAS Conservation Program was developed over a 10-year period, and is the result of a multiagency partnership of Federal, State, and local government agencies, and the private sector that encourages a riverwide approach to conservation of the Santa Ana sucker.

This SAS Conservation Program partnership is intended to: (1) increase the knowledge base to implement recovery strategies for the sucker in the Santa Ana River; (2) ensure that each participating agency minimizes, to the extent possible, effects to the sucker and its habitat from routine activities that occur within their jurisdiction in the Santa Ana River; and (3) develop restoration techniques for degraded habitat. Partners in the SAS Conservation Program, called the Santa Ana Sucker Conservation Team (Team), include the U.S. Army Corps of Engineers (ACOE), the Service, CDFG, the State Regional Water Quality Control Board (Santa Ana Region), the Santa Ana Watershed Project Authority, and the following participating agencies (Participants): San Bernardino County Flood Control District, City of San Bernardino Municipal Water Department, Riverside County Flood Control and Water Conservation District, Riverside County Transportation Department, City of Riverside Regional Water Quality Control Plant, Orange County Water District, Orange County Resources and

Development Management Department, and Orange County Sanitation District.

Actions undertaken by the Riverside County Transportation Department and facilities and parcels under the jurisdiction of the Riverside County Flood Control and Water Conservation District and the City of Riverside Regional Water Quality Control Plant occur within the areas addressed by the Program. These areas also include a small amount of Public-Quasi-Public (PQP) lands within the Western Riverside County Multiple-Species Habitat Conservation Plan (Western Riverside County MSHCP) Planning Area. Riverside County participation in the SAS Conservation Program preceded the development of the MSHCP. Actions undertaken by these Participants are not considered Covered Activities in the Western Riverside County MSHCP and incidental take authorization for the Santa Ana sucker that could occur on these PQP lands is explicitly excluded under the Western Riverside County MSHCP. Therefore, although this proposed exclusion includes some PQP lands within the Western Riverside County MSHCP Planning Area, we are not proposing to exclude these PQP lands based upon participation in the MSHCP. Instead, we are considering exclusion of these PQP lands under the SAS Conservation Program.

The SAS Conservation Program is intended to conserve the Santa Ana sucker and protect its habitat through:

- (1) implementation of a systematic approach to conducting routine operations and facilities maintenance within the program area;
- (2) education and outreach;
- (3) conducting annual surveys within the program area to monitor the status of the sucker and conducting a quantitative assessment of habitat conditions within the program area;
- (4) conducting surveys for sucker prior to undertaking routine operations and maintenance;
- (5) funding research actions to increase understanding of sucker biology; and
- (6) developing and implementing habitat restoration activities that benefit the Santa Ana sucker.

The SAS Conservation Program is administered by the Santa Ana Watershed Project Authority. Activities undertaken by participants are subject to the regulatory authority of the ACOE under the Clean Water Act, 33 USC § 1251 *et seq.*, as amended (1987). The Clean Water Act section 404 application submitted by the agencies participating in the SAS Conservation Program for operation and maintenance activities proposed in the Santa Ana River and for

implementation of the SAS Conservation Program is under review by the ACOE and will also be the subject of a future Section 7 consultation between ACOE and the Service. We will issue a biological opinion on the application prior to a decision by the ACOE.

While waiting for approvals and permits, the participants (local stakeholders on the team) have implemented several actions under the SAS Conservation Program, including funding the following:

- (1) A comparative study on fish health and water quality within the Santa Ana and San Gabriel Rivers (Saiki 2000);
- (2) a study of sucker distribution, movement, spawning, and impacts from nonnative predators within the Santa Ana River (Swift 2001);
- (3) a study of wastewater treatment facility operational discharge regimes on the Santa Ana sucker (Allen 2003); and
- (4) a video to educate staff and contractors working for participating agencies about the sucker and its conservation.

Since 2000, the participants have also funded annual demographic monitoring of the Santa Ana sucker at three locations within the Santa Ana River; and, more-recently, have conducted an annual assessment of habitat conditions within the Santa Ana River. The participants also recently completed an assessment of streams within the historical range of the Santa Ana sucker and other native fishes within and outside of the program area to identify areas for possible restoration and are now focusing efforts on developing a habitat restoration program to include restoration of the mainstem of the Santa Ana River and its tributaries both within and outside of the program area (OCWD 2009, p. 1-1). In 2009, the participants proposed two habitat restoration projects in the Santa Ana River to restore habitat for the Santa Ana sucker and are waiting for required approvals from State and Federal regulatory agencies.

The Santa Ana sucker is threatened primarily by loss of habitat types necessary to support all life-stages; lower water quality and turbidity as a result of excess nutrient loads and in-stream ground disturbances; crushing from recreational OHV use; and the effects of predation by nonnative fish within the program area (Santa Ana Watershed Project Authority 2008; OCWD 2009, p. 89). Implementation of the SAS Conservation Program is intended to remove and reduce threats to this species and the features essential to its conservation by:

(1) ensuring that routine maintenance and operational procedures are conducted in a manner that eliminates or reduces impacts to the Santa Ana sucker;

(2) establishing vehicle crossings in the river that will not only reduce impacts from in-stream vehicles by SAS Conservation Program participants, but will also direct recreational OHV use towards less-sensitive areas;

(3) ensuring that wastewater treatment facilities' operational parameters maintain surface flows for the Santa Ana sucker; and

(4) conducting habitat restoration and predator removal. As outlined above, we believe that habitat restoration and management of Santa Ana sucker habitat in the Santa Ana River system under the SAS Conservation Program will contribute to conservation and ultimate recovery of this species.

In summary, we believe that the proactive management strategies and research and restoration activities, including current activities and those proposed for future implementation, under the SAS Conservation Program will benefit this species and help to conserve and enhance the physical and biological features essential to its conservation on public and private lands under the jurisdiction of the SAS Conservation Program. Therefore, the Secretary is considering exercising his discretion under section 4(b)(2) of the Act to exclude of all Santa Ana sucker habitat in Subunit 1B (4,705 ac (1,904 ha)) and Subunit 1C (767 ac (310 ha)) from the final revised critical habitat designation because of the conservation benefits afforded to the Santa Ana sucker habitat under the SAS Conservation Program.

The 2000 final listing rule for the Santa Ana sucker identified the following primary threats to the Santa Ana sucker: potential habitat destruction, natural and human-induced changes in stream flows, urban development and related land-use practices, intensive recreation, introduction of nonnative competitors and predators, and demographics associated with small population sizes. The implementation of the SAS Conservation Program would help to address these threats through a coordinated regional planning effort that incorporates specific research and conservation measures for the Santa Ana sucker and its habitat. We will analyze the benefits of inclusion and exclusion of this area from critical habitat under section 4(b)(2) of the Act. We encourage any public comment in relation to our consideration of the areas

in Unit 1 for inclusion or exclusion (see **Public Comments** section above).

Economic Analysis

In compliance with section 4(b)(2) of the Act, we are preparing a new analysis of the economic impacts of this proposed revision to critical habitat for the Santa Ana Sucker, to evaluate the potential economic impact of the proposed revised designation. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at <http://www.regulations.gov>, at Docket No. **FWS-R8-ES-2009-0072**, or by contacting the Carlsbad Fish and Wildlife Office directly (see **FOR FURTHER INFORMATION CONTACT** section). During the development of the final revised designation, we will consider economic impacts, public comments, and other new information. We will also consider areas, including those identified for potential exclusion, which may be excluded from the final critical habitat designation under section 4(b)(2) of the Act and our implementing regulations at 50 CFR § 424.19.

An analysis of the economic impacts for the previous proposed critical habitat designation was conducted and made available to the public for 10 days beginning on October 1, 2004 (69 FR 58876). We published another notice in the **Federal Register** on October 25, 2004 (69 FR 62238), reopening a 30-day comment period on the draft economic analysis and the proposed designation. That economic analysis was finalized for the final rule to designate critical habitat for the Santa Ana sucker published in the **Federal Register** on January 4, 2005 (70 FR 426).

The analysis determined that the costs associated with critical habitat for the Santa Ana sucker, across the entire area considered for designation (across designated and excluded areas), were primarily a result of the potential effect of critical habitat on transportation (49 percent of the annual costs and overall prospective costs), and to a lesser extent water supply, flood control activities, and residential and commercial development. The economic analysis determined that retrospective costs (costs since listing, 1999-2004) total \$4.2 million, with transportation comprising \$3.4 million of these costs. The remainder of retrospective costs was split among OHV recreation, flood control agencies, and Federal agencies. Total prospective costs of the 2004 proposed rule (costs for the 20-year

period 2004-2024) were \$30.5 million assuming a 3 percent discount rate and \$21.8 million with a 7 percent discount rate. Based on the 2004 economic analysis, we concluded that the designation of critical habitat for the Santa Ana sucker, as proposed in 2004, would not result in significant small business impacts. This analysis is presented in the notice of availability for the economic analysis published in the **Federal Register** on October 1, 2004 (69 FR 58876).

The prior draft economic analysis included costs coextensive costs with the listing of the species, in other words costs attributable to the listing of the species as well as costs attributable to the designation of critical habitat. The new analysis will analyze the specific costs attributable to designating all areas proposed in this proposed revised rule as critical habitat.

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), we are soliciting the expert opinions of at least three appropriate independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions in this proposed revised designation of critical habitat. We will consider all comments and information we receive during this comment period on this proposed rule during our preparation of a final determination. Accordingly, our final decision may differ from this proposal.

Public Hearings

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if we receive any requests for hearings. We must receive your request for a public hearing by the date shown under **DATES**. Send your request to Jim Bartel, Field Supervisor of the Carlsbad Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT** section). We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the first hearing.

Required Determinations

Regulatory Planning and Review – Executive Order 12866

The Office of Management and Budget (OMB) has determined that this rule is not significant and has not reviewed this proposed rule under Executive Order 12866 (E.O. 12866). OMB bases its determination upon the following four criteria:

(1) Whether the rule will have an annual effect of \$100 million or more on the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government;

(2) Whether the rule will create inconsistencies with other Federal agencies' actions;

(3) Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients; and

(4) Whether the rule raises novel legal or policy issues.

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

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the RFA to require Federal agencies to provide a statement of factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

An analysis of the economic impacts for our previous proposed critical habitat designation was conducted and made available to the public on October 1, 2004 (69 FR 58876) and October 25, 2004 (69 FR 62238). This economic analysis was finalized for the final rule to designate critical habitat for the Santa Ana sucker as published in the **Federal Register** on January 4, 2005 (70 FR 426). The costs associated with critical habitat for the Santa Ana sucker, across the entire area considered for designation (across designated and excluded areas), were primarily a result of the potential effect of critical habitat on transportation, and to a lesser extent

water supply, flood control activities, and residential and commercial development. Total prospective costs of all conservation actions related to Santa Ana Sucker within the areas in the 2004 proposed rule (costs for the 20-year period 2004-2024) were \$30.5 million assuming a 3 percent discount rate and \$21.8 million with a 7 percent discount rate. Based on the 2004 economic analysis, we concluded that the designation of critical habitat for the Santa Ana sucker, as proposed in 2004, would not result in significant small business impacts. This analysis is presented in the notice of availability for the economic analysis as published in the **Federal Register** on October 1, 2004 (69 FR 58876).

While we do not believe our revised designation, as proposed, will result in a significant impact on a substantial number of small business entities based on the previous designation, we are initiating a new analysis to more thoroughly evaluate potential economic impacts of this revision to critical habitat. Therefore, we defer the RFA finding until completion of the draft economic analysis prepared under section 4(b)(2) of the Act and E.O. 12866. The draft economic analysis will provide the required factual basis for the RFA finding. Upon completion of the draft economic analysis, we will announce its availability in the **Federal Register** and reopen the public comment period for the proposed designation. We will include with this announcement, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination. We concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that we make a sufficiently informed determination based on adequate economic information and provide the necessary opportunity for public comment.

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

In accordance with the Unfunded Mandates Reform Act, we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both "Federal

intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5) – (7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or [T]ribal governments," with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and [T]ribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or Tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) Based in part on an analysis conducted for the previous designation of critical habitat and extrapolated to

this designation, we do not expect this rule to significantly or uniquely affect small governments. Small governments will be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. Therefore, a Small Government Agency Plan is not required. However, as we conduct our economic analysis for the revised rule, we will further evaluate this issue and revise this assessment if appropriate.

Takings – Executive Order 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for the Santa Ana sucker in a takings implications assessment. The takings implications assessment concludes that this designation of critical habitat for the Santa Ana sucker does not pose significant takings implications for lands within or affected by the designation.

Federalism – Executive Order 13132

In accordance with E.O. 13132 (Federalism), this proposed 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 proposed critical habitat designation with, appropriate State resource agencies in California. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical and biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist these local governments in long-range planning (because these local governments no longer have to wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the

legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform – Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), it has been determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed to revise critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies the physical and biological features within the designated areas to assist the public in understanding the habitat needs of the Santa Ana sucker.

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

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA (42 U.S.C. 4321 et seq.) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

- (1) Be logically organized;
- (2) Use the active voice to address readers directly;
- (3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the **ADDRESSES** section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful.

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994, Government-to-Government Relations with Native American Tribal Governments (59 FR 22951), E.O. 13175, and the Department of the Interior's manual at 512 DM 2, we have a responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes.

We determined that there are no tribal lands occupied at the time of listing that contain the features essential for the conservation of the species, nor are there any unoccupied tribal lands that are essential for the conservation of the Santa Ana sucker. Therefore, critical habitat for the Santa Ana sucker is not being proposed on tribal lands. We will continue to coordinate with Tribal governments as applicable during the designation process.

Energy Supply, Distribution, or Use – Executive Order 13211

On May 18, 2001, the President issued an Executive Order (E.O. 13211; Actions Significantly Affect Energy Supply, Distribution, or Use) on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. Based on an analysis conducted for the previous designation of critical habitat and extrapolated to this designation, along with a further analysis of the additional areas included

in this revision, we determined that this proposed rule to designate critical habitat for the Santa Ana sucker is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and we will review and revise this assessment as warranted.

References Cited

A complete list of all references cited in this rulemaking is available on <http://www.regulations.gov> and upon request from the Field Supervisor, Carlsbad Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT** section).

Author(s)

The primary author of this notice is the staff from the Carlsbad Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT** section).

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

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

2. In § 17.95(e), revise the entry for “Santa Ana sucker (*Catostomus santaanae*)” to read as follows:

§ 17.95 *Critical habitat—fish and wildlife.*

* * * * *

(e) *Fishes.*

* * * * *

Santa Ana sucker (*Catostomus santaanae*)

(1) Critical habitat units are depicted for Los Angeles, Orange, Riverside, and San Bernardino Counties, California, on the maps below.

(2) Within these areas, the physical and biological features for the Santa Ana sucker are as follows:

(i) A functioning hydrological system within the historical geographic range of the Santa Ana sucker that experiences peaks and ebbs in the water volume (either naturally or regulated) necessary to maintain all life stages of the species in the riverine environment, including breeding site selection, resting, larval development, and protection in cool-water refuges (i.e., tributaries);

(ii) Stream channel substrate consisting of a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins;

(iii) Water depths greater than 3 cm (1.2 in) and bottom water velocities greater than 0.03 m per second (0.01 ft per second);

(iv) Clear or only occasionally turbid water;

(v) Water temperatures less than 30 °C (86 °F); and

(vi) In-stream habitat that includes food sources (such as zooplankton, phytoplankton, and aquatic invertebrates), and associated vegetation such as aquatic emergent vegetation and adjacent riparian vegetation to: (A) reduce water temperature when ambient temperatures are high; (B) provide shelter; and (C) provide protective cover from predators; and

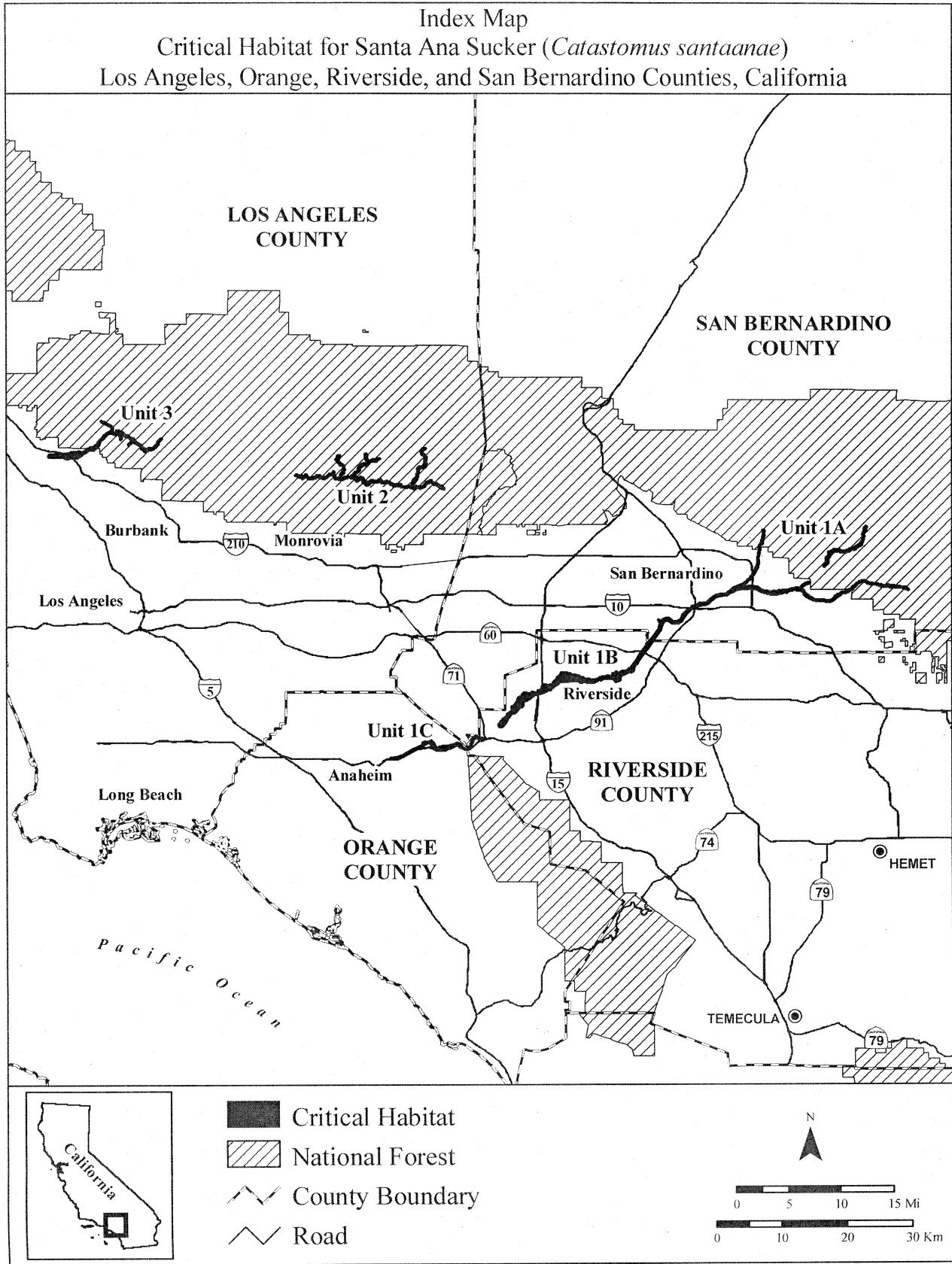
(vii) Areas within perennial stream courses that may be periodically dewatered, but that serve as connective corridors between occupied or seasonally occupied habitat and through which the species may move when the habitat is wetted.

(3) Critical habitat does not include manmade structures existing on the effective date of this rule and not containing one of more of the physical and biological features, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat map units.* Data layers defining map units were created using a base of U.S. Geological Survey 7.5' quadrangle maps. Critical habitat units were then mapped using Universal Transverse Mercator (UTM) zone 11, North American Datum (NAD) 1983 coordinates.

(5) *Note:* Index map of critical habitat units for the Santa Ana sucker (*Catostomus santaanae*) follows:

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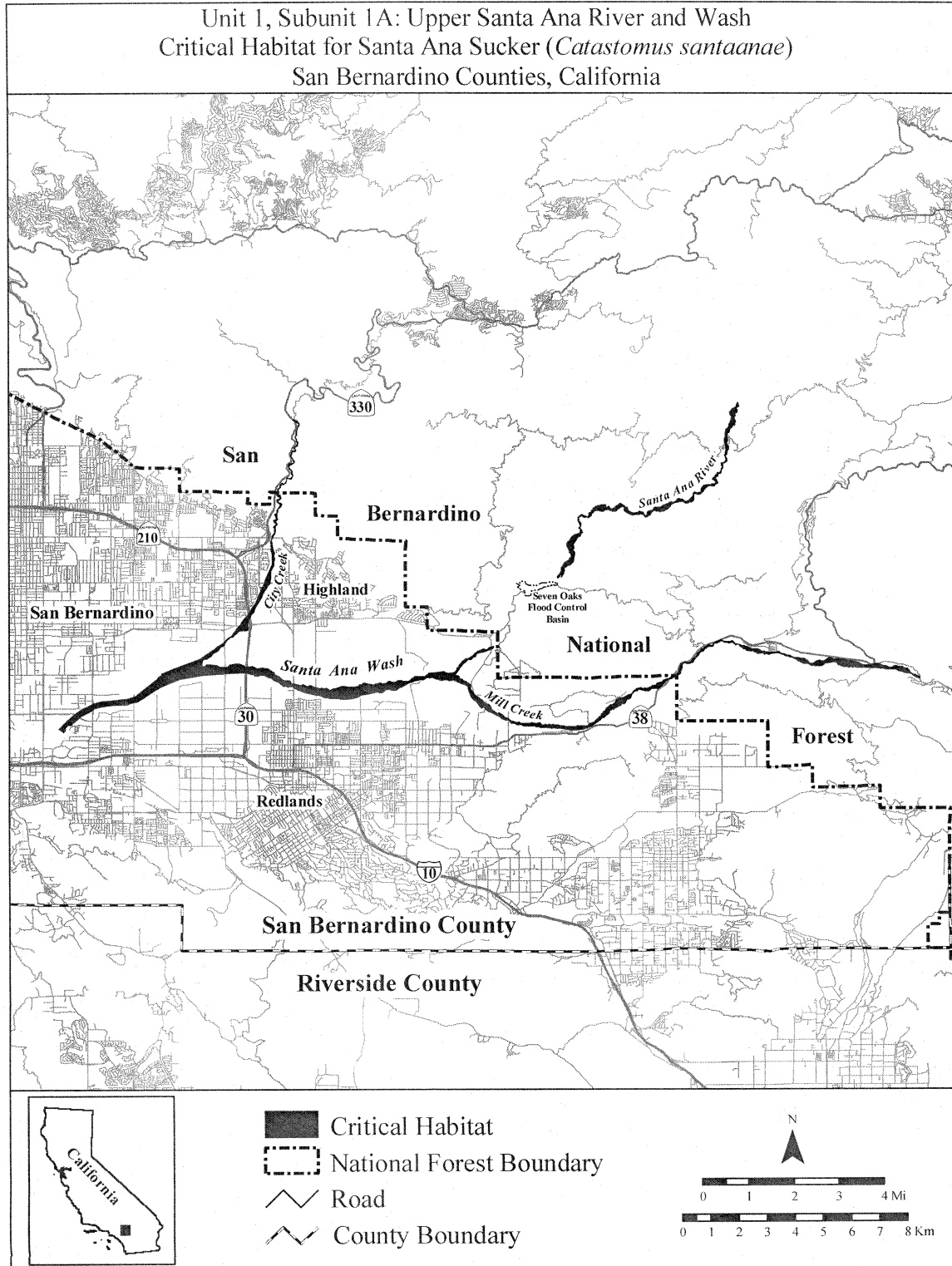


(6) Unit 1: Santa Ana River, Orange, Riverside, and San Bernardino Counties, California.

(i) Subunit 1A: Upper Santa Ana River and Wash, San Bernardino County.

(A) [Reserved for textual description of Subunit 1A.]

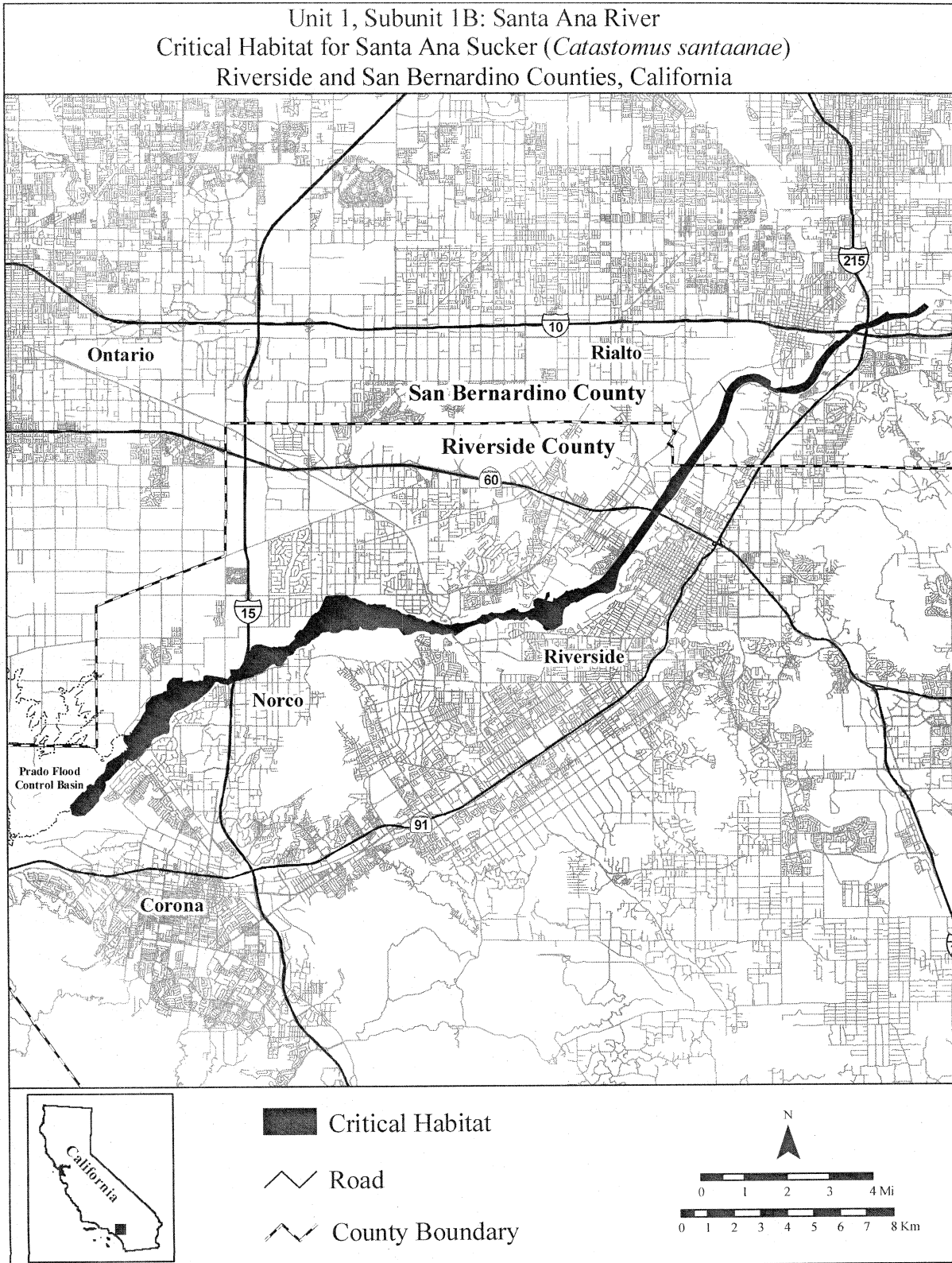
(B) Map of Subunit 1A (Upper Santa Ana River and Wash) follows:



(ii) Subunit 1B: Santa Ana River, Riverside and San Bernardino Counties.

(A) [Reserved for textual description of Subunit 1B.]

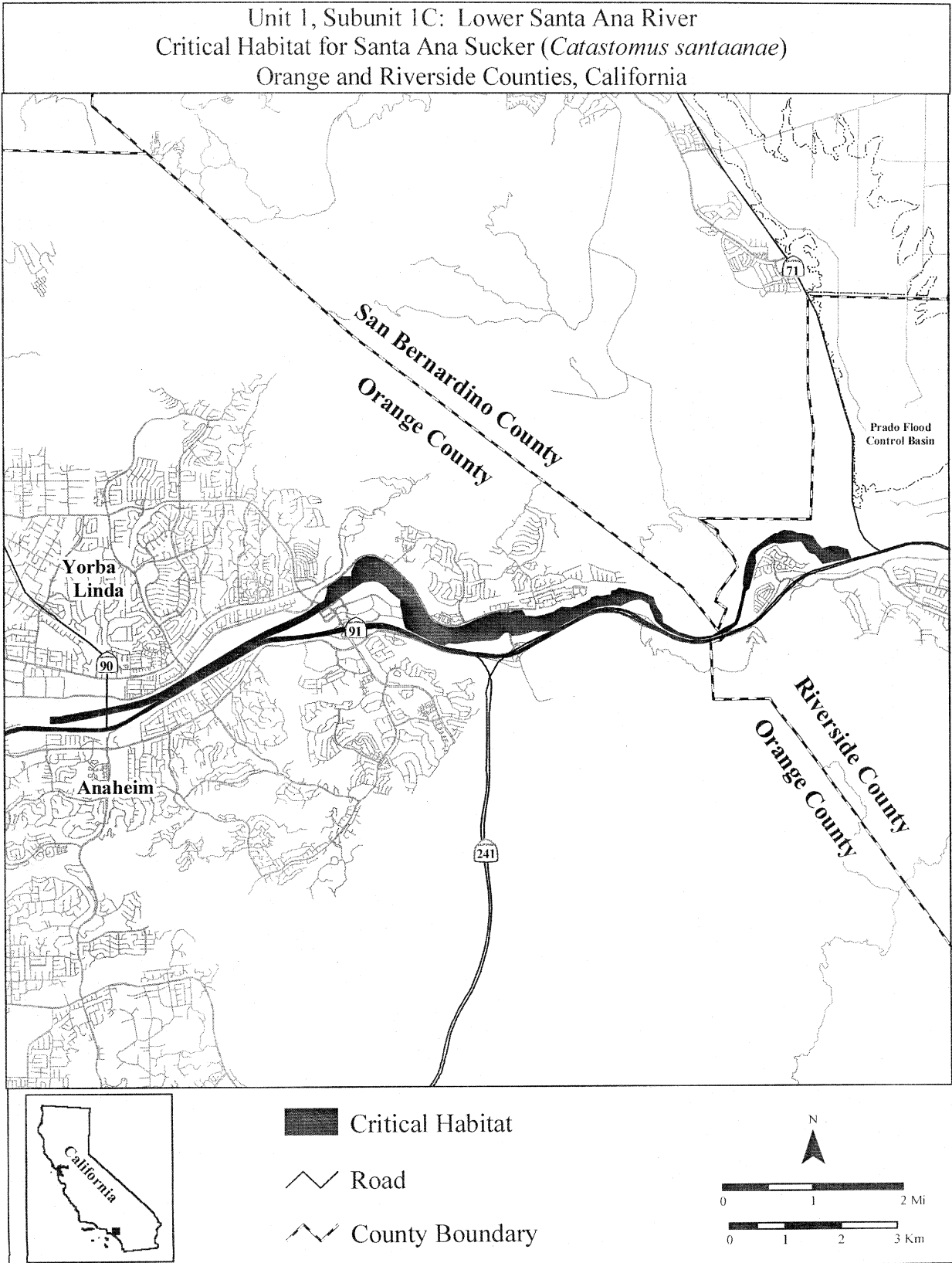
(B) Map of Subunit 1B: (Santa Ana River) follows:



(iii) Subunit 1C: Lower Santa Ana River, Orange and Riverside Counties.

(A) [Reserved for textual description of Subunit 1C.]

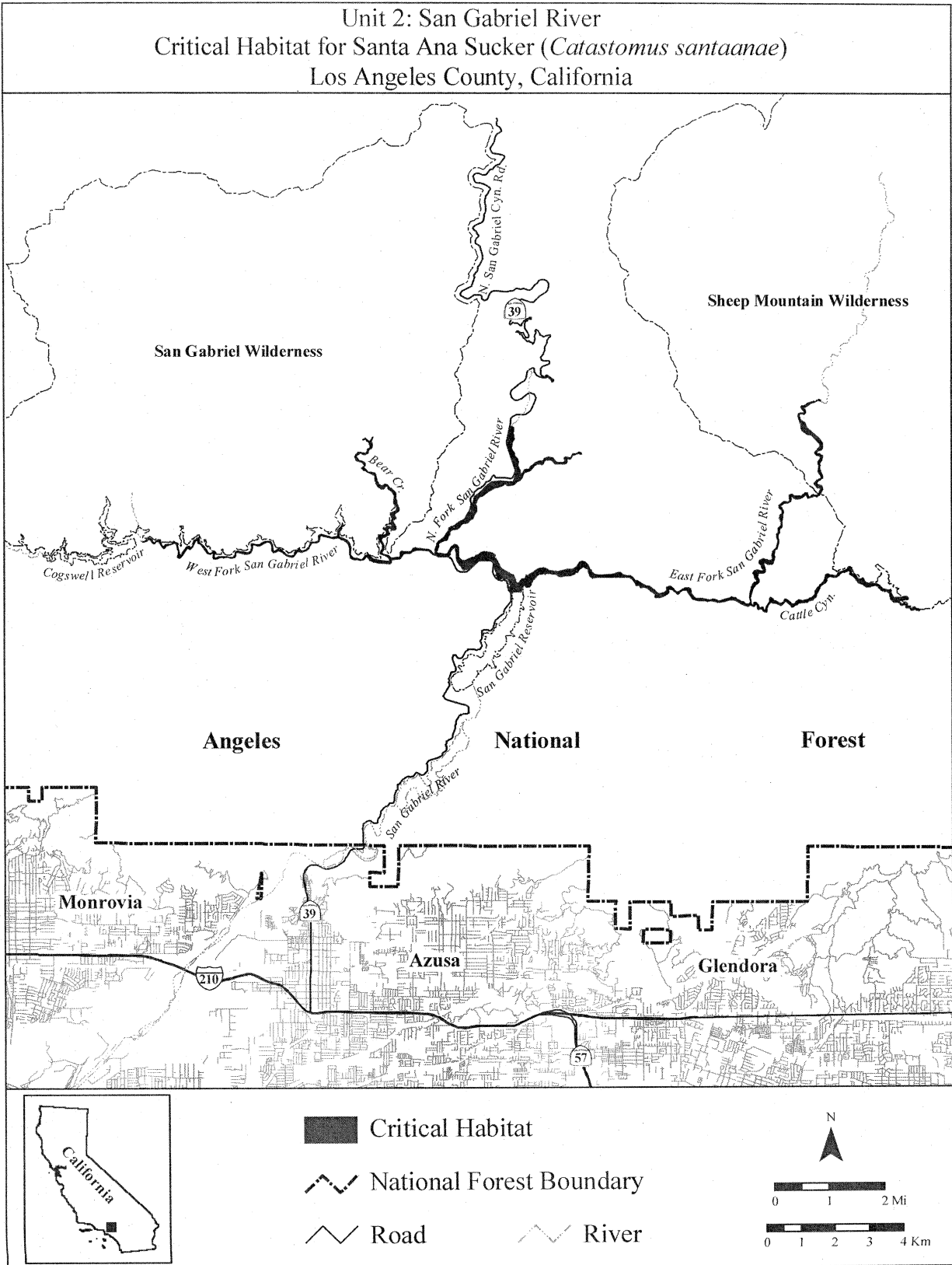
(B) Map of Subunit 1C (Lower Santa Ana River) follows:



(7) Unit 2: San Gabriel River, Los Angeles County, California.

(i) [Reserved for textual description of Unit 2.]

(ii) Map of Unit 2 (San Gabriel River) follows:



(8) Unit 3: Big Tujunga Wash, Los Angeles County, California.

(i) Subunit 3A: Big Tujunga Wash.

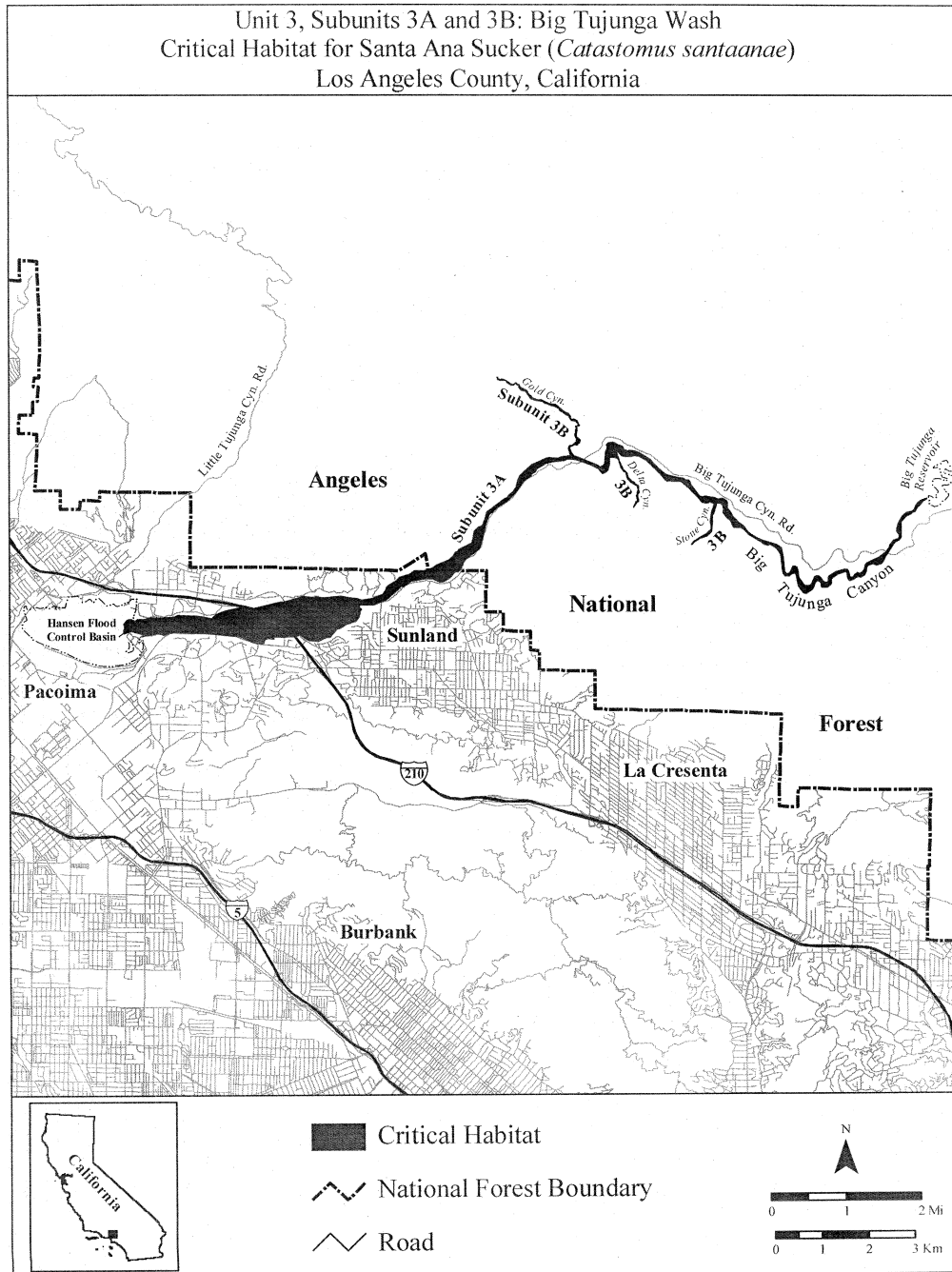
(A) [Reserved for textual description of Subunit 3A.]

(B) Map of Subunit 3A (Big Tujunga Wash) appears in paragraph (8)(ii)(B) of this entry.

(ii) Subunit 3B: Gold Canyon, Delta Canyon, and Stone Canyon Creeks.

(A) [Reserved for textual description of Subunit 3B.]

(B) Map of Unit 3 (Big Tujunga Wash) follows:



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Dated: November 21, 2009.
Thomas L. Strickland,
Assistant Secretary for Fish and Wildlife and Parks.
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