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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for Santa Ana Sucker; Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R8–ES–2009–0072; 92210–1117–0000–B4]

RIN 1018–AW23

Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for Santa Ana Sucker

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for Santa Ana sucker (*Catostomus santaanae*) under the Endangered Species Act of 1973, as amended. In total, approximately 9,331 acres (3,776 hectares) of habitat in the Santa Ana River in San Bernardino, Riverside, and Orange Counties and the San Gabriel River and Big Tujunga Creek in Los Angeles County in southern California fall within the boundaries of the critical habitat designation. This final revised designation constitutes an overall increase of approximately 1,026 acres (415 hectares) from the 2005 designation of critical habitat for Santa Ana sucker.

DATES: This rule becomes effective on January 13, 2011.

ADDRESSES: This final rule and the associated final economic analysis are available on the Internet at *http://www.regulations.gov* and *http://www.fws.gov/carlsbad/*. Comments and materials received, as well as supporting documentation used in preparing this final rule are available for public inspection, by appointment, during normal business hours, at the 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.

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) 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:

Background

It is our intent to discuss only those topics directly relevant to the development and designation of revised critical habitat for Santa Ana sucker in this final rule. In the proposed rule (74 FR 65056; December 9, 2009) and the document that made available the draft economic analysis (DEA) (75 FR 38441; July 2, 2010), we stated that there was new information on the distribution of 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 (70 FR 425; January 4, 2005). As a result of public comments on this new information, we are providing clarification of this information in the Habitat and Geographic Range and Status sections of this final rule. Additionally, we incorporated information from recent surveys in the Santa Ana River (*see* Geographic Range and Status section) and new information on the hydrology and flow regime of the Santa Ana River (*see* Sites for Breeding, Reproduction, and Rearing (or Development) of Offspring section). No new information pertaining to the species' description, life history, or ecology was received following the 2009 proposed revised rule and the document that made available the DEA. For more information on Santa Ana sucker, refer to the final listing rule published in the **Federal Register** on April 12, 2000 (65 FR 19686); the designation and revision of critical habitat published in the **Federal Register** on February 26, 2004 (69 FR 8839), and on January 4, 2005 (70 FR 425), respectively; the proposed revised critical habitat published in the **Federal Register** on December 9, 2009 (74 FR 65056); and the document that made available the DEA published in the **Federal Register** on July 2, 2010 (75 FR 38441).

Habitat

As discussed in detail in the Habitat section of the proposed revised critical habitat rule (74 FR 65056; December 9, 2009), Santa Ana sucker requires various substrate types throughout different stages of its life. The presence of coarse substrates, including gravel, cobble, and a mixture of gravel or cobble with sand, and a combination of shallow riffle areas and deeper runs and pools provide optimal stream conditions (Haglund *et al.* 2001, p. 60; Haglund and Baskin 2003, p. 55). Areas of shifting sandy substrates are less suitable for development of algae, an important food source for suckers (Saiki *et al.* 2007, p. 98). Therefore, an integrated water system that contains and provides the appropriate quantity of coarse substrates such as gravel, larger cobbles, or boulders that provide the space for reproductive development and growth of algae as a primary food source is important for a viable population of Santa Ana suckers.

Saiki *et al.* (2007, p. 98) indicates that the San Gabriel River supports higher body condition Santa Ana suckers (as described by their higher length-weight relationship) and greater availability of various habitat types than the Santa Ana River. They state that the San Gabriel River generally contains a higher abundance of Santa Ana suckers and larger individuals, which may be attributed to more suitable habitat characters such as cooler water temperature, intermediate water velocities, and commonality of pools and riffles with coarser bottom substrates, all of which may contribute to a better functioning system and more suitable habitat for Santa Ana suckers (Saiki *et al.* 2007, pp. 99–100).

In the San Gabriel River, there are some distinct differences between the three forks of the river (north, west, and east), which seem to correlate with both fish abundance and life stage occupancy (Tennant 2006, pp. 4–5, 9). Overall, the water condition (*i.e.,* lower temperature, lower specific conductance, and lower turbidity) and habitat available in the San Gabriel River system appear to be primary reasons that Santa Ana suckers are in higher abundance and better condition compared to those in the Santa Ana River, although other variables (*i.e.,* stream width or depth) may also influence the species' abundance and condition. For example, in the Santa Ana River, the predominate riparian vegetation is the nonnative species *Arundo donax* (giant reed). In Big Tujunga Creek, *A. donax* can be common in the lower reaches (Baskin and Haglund 1999, p. 11; Saiki 2000, pp. 62–80). In the San Gabriel River, this nonnative plant is rarely found, and the riparian vegetation consists of primarily native vegetation or may be bare due to the steeper, mountainous terrain (Saiki 2000, pp. 18–19; Saiki *et al.* 2007, p. 90). Native riparian vegetation provides cover and shelter from predators, which is essential for juvenile and adult Santa Ana suckers (*see* Primary Constituent Elements—Cover and Shelter and Primary Constituent Elements for Santa Ana Sucker below). *Arundo donax* is an aquatic plant in the genus of perennial reed-like grasses (Poaceae) and is often found growing along lakes, streams, and other wetted areas. Compared to other riparian vegetation, it is known to use excessive amounts of water to supply its exceptionally high growth rates (Bell 1997, p. 104) and could crowd out native riparian vegetation or possibly lower the water table (Zembal and Hoffman 2000, p. 66). In areas where *A.*

donax is common, flows may become diminished and sandy pools may form. Slow-moving flows and formation of pools are preferred habitat for nonnative predators such as largemouth bass (*Micropterus salmoides*) and green sunfish (*Lepomis cyanellus*), which have been suggested to prey heavily on Santa Ana suckers. The effects of *A. donax* presence may negatively affect Santa Ana sucker by altering the instream habitat and, may also provide habitat for nonnative predators. However, these types of impacts would need to be evaluated within the context of potential threats to the Santa Ana sucker.

The unmodified and unpolluted habitat in the San Gabriel River supports what appears to be a healthier and more viable population of Santa Ana sucker. Habitat assessments conducted throughout the Big Tujunga Creek indicate that the habitat suitability is variable throughout the system; however, the river does contain areas that are suitable for all Santa Ana sucker life stages (LACDPW 2009, Google Earth kmz file). It is likely that because of the variability in habitat suitability, the density of Santa Ana suckers in the Big Tujunga Creek is patchy and often low (Ecorp Consulting 2010a, p. 5; Haglund and Baskin 2010, pp. 5–6).

Santa Ana sucker habitat may be impacted as a result of wildfires. Impacts associated with wildfires may occur immediately or may not become apparent until much later. Immediate impacts may include the loss of upland and riparian vegetation and creation of roads for fire-fighting, which may allow greater access to streambeds and facilitate increased Off Highway Vehicle (OHV) use, resulting in further habitat degradation (USGS 2009, p. 7). Excessive debris flows and changes to water quality are anticipated to occur during seasonal rains over the next several years in the Big Tujunga Creek and surrounding San Gabriel Mountains (USGS 2009, p. 7). Anticipated post-fire impacts to streams within the critical habitat designation for Santa Ana sucker include ash and debris deposition that may physically alter streambeds and pools, increased scouring of riparian and aquatic vegetation, and increased water temperature from the short-term loss of canopy shading (USFS 2009, p. 5). Post-fire impacts to water quality (such as increased turbidity) are also anticipated along with release and mobilization of toxic chemicals such as gas, oil, and building materials from burned structures and their contents (USFS 2009, p. 6). The impacts associated with post-fire winter flows include but are not limited to changes in sediment composition, high flows that flush Santa Ana suckers into unsuitable habitats, and changes in water quality (such as increased turbidity and the introduction of chemicals from debris and fire retardant).

Recreational uses of streams may pose significant impacts to Santa Ana sucker habitat. Throughout the drainage systems where Santa Ana suckers persist, there are varying levels of recreational use. On U.S. Forest Service lands, recreational pressures may be considerable. Permanent or intermittent dams are frequently created for recreational purposes, such as those used for suction dredging or bathing. These dams may degrade instream and bank habitat, decrease water quality by increasing turbidity (affect PCE 4), disrupt sediment transport (affect PCEs 1 and 2), impede upstream movement, degrade habitat by slowing water velocities (affect PCE 3), increase water temperatures (affect PCE 5), and encourage excessive growth of algae (Ally 2003, p. 3). In addition, presumably, since water depths increase and velocities decrease, these areas may harbor nonnative predators (Ally 2003, p. 1; Chambers Group 2004, p. 6–4). Recreational residences located within the riparian area of the San Gabriel River and Big Tujunga Creek may impact Santa Ana sucker because of the improperly functioning septic systems at these residences which can degrade water quality conditions by increasing water turbidity (PCE 4) as a result of the increased nutrient loads in the water (USFS 2007, p. 18), which lead to excessive algal growth.

Geographic Range and Status

As discussed in detail in the Geographic Range and Status section of the proposed revised rule (74 FR 65056; December 9, 2009), genetic introgression (when a hybrid breeds with one of the parent species) has been detected in both Santa Ana sucker and Owens sucker (*Catostomus fumeiventris*) within the Santa Clara River (Ferguson 2009, p. 1; Chabot *et al.* 2009, p. 24), indicating that hybridization between these two species has occurred. Moyle (2002, p. 184) and Chabot *et al.* (2009, p. 1) recently described hybridization of Santa Ana sucker with Owens sucker in the lower Santa Clara River in the vicinity of Fillmore and Sespe Creek. As stated in the proposed revised critical habitat rule (74 FR 65056; December 9, 2009), a genetic analysis of the populations in all four watersheds would provide information on the status of the fish throughout the range, including whether the Santa Clara population is native, introduced, or hybridized. However, this analysis has not been completed to date. Researcher and species' expert opinions on the status of the population in the Santa Clara River vary widely. Additional research is needed to determine the impact and extent of hybridization on genetically pure Santa Ana sucker in the Santa Clara River. Given the lack of new genetic information to help us determine whether Santa Ana suckers in the Santa Clara River are native or introduced, as well as a lack of information on the impact and extent 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. Therefore, the Santa Clara River area was not included in the proposed revision to critical habitat or this final rule.

The Santa Ana sucker is considered a listed species in the Los Angeles, San Gabriel, and Santa Ana River drainages (Service 2000, pp. 19686–19687). Additionally, the listing rule states that Arroyo Tesquesquite, Sunnyslope Creek, Anza Park Drain, and the lower outlet of Hidden Valley Drain are used for spawning and nurseries (Service 2000, p. 19687), and therefore Santa Ana sucker in those areas are considered part of the listed entity. The historical survey records for this species are not considered complete, and the precise areas occupied by the species are difficult to determine with certainty because not all areas were surveyed exhaustively and distribution literature states that the Los Angeles, San Gabriel, and Santa Ana River drainages as a whole were occupied (Moyle 2002, p. 183; Greenfield *et al.* 1970, p. 166; Smith 1966, pp. 53–56). In particular, the upper limit of habitat occupied by the Santa Ana sucker within each of the Los Angeles, San Gabriel, and Santa Ana River drainages is difficult to determine. However, as we note in our analysis of criteria used to define critical habitat (*see* Criteria Used To Identify Critical Habitat section below), Santa Ana suckers have not been observed in streams or rivers where the instream gradient exceeds 7 degrees. Even in areas where the stream gradient is less than 7 degrees, the upper limits of occupied habitat within the drainages likely have varied through time because of the dynamic nature of these drainage systems. Portions of streams may dry out in some years while the same area may become occupied by Santa Ana suckers in subsequent years due to the

presence of water (Baskin *et al.* 2005, pp. 1–2).

The current status of Santa Ana sucker in the Santa Ana River appears to be declining. In 2009, the lowest Santa Ana sucker density since sampling began in 2001was reported by the Santa Ana Sucker Conservation Program Team (Team). Although densities of Santa Ana sucker have been variable from year to year, the overall density trend in the Santa Ana River is decreasing (SMEA 2009, p. 2). Recent research conducted by Thompson *et al.* (2010, pp. 321–332) indicates that the areas in the Santa Ana River with the highest quality habitat (gravel and cobbles) available for adult, juvenile, and larval stages of Santa Ana sucker occur just downstream of Riverside Avenue near the Riverside–San Bernardino County line. Further, they believe Santa Ana sucker abundance is directly related to the abundance of cobbles and gravel and that the lower portion of the survey area contains little to no suitable substrates (Thompson *et al.* 2010, pp. 328–331). Monitoring and research results from both the Team (SMEA 2009, pp. 1–5) and Thompson *et al.* (2010, pp. 328–330) show that low abundance of suitable habitat is correlated with low Santa Ana sucker abundance, indicating that altered fluvial processes (*i.e.,* diminished transport of water and coarse sediments), lack of suitable substrate, and impediments to movement continue to fragment much of the current distribution of Santa Ana sucker in the Santa Ana River watershed.

Recent survey reports from the West Fork of the San Gabriel River indicate that there may be a decreasing trend in Santa Ana sucker population (Ecorp Inc. 2007, p. 9; Ecorp Inc. 2010b, p. 9). Monitoring of the West Fork of the San Gabriel River within and outside of the off-highway vehicle (OHV) area has indicated that Santa Ana sucker is generally more abundant at the control sites than in the OHV area (Haglund and Baskin 2002, pp. 9–15; Ecorp Inc. 2007, p. 9; Ecorp Inc. 2010b, p. 9). However, during the 2009 monitoring period, very low numbers of Santa Ana suckers and hundreds of nonnative predators were captured at all sites within the study area (Ecorp Inc. 2010b, p. 9). The report postulates that the flood basin of the San Gabriel Dam was full and flooded into areas where Santa Ana suckers are normally present; however, water quality measurements do not indicate any measureable change (Ecorp Inc. 2010b, p. 7). It is possible that the operations of the Cogswell and San Gabriel Dams have impacted the habitat suitability for Santa Ana sucker, and, in turn, abundance has decreased in the West Fork of the San Gabriel River. More information is needed to evaluate the status of Santa Ana sucker in the West Fork of the San Gabriel River.

Previous Federal Actions

Santa Ana sucker was listed as a threatened species under the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 *et seq.*) on April 12, 2000 (65 FR 19686), in the Los Angeles River basin, San Gabriel River basin, and Santa Ana River basin. A fourth population in the Santa Clara River was not listed because it was presumed to be introduced into that watershed. Critical habitat was designated on January 4, 2005 (70 FR 425).

On November 15, 2007, California Trout, Inc., the California–Nevada Chapter of the American Fisheries Society, the Center for Biological Diversity, and the Friends of the River 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.)]. We entered into a stipulated settlement agreement with plaintiffs that was approved by the district court on January 21, 2009.

The stipulated agreement required that we submit a proposed revised critical habitat for the Santa Ana sucker to the **Federal Register** by December 1, 2009, and a final revised critical habitat by December 1, 2010. On December 9, 2009, we published in the **Federal Register** a proposed revised critical habitat for the Santa Ana sucker (74 FR 65056). On July 2, 2010, we published a notice in the **Federal Register** reopening the comment period on the proposed rule and making available the DEA (75 FR 38441). With this final rule, we are submitting a final revised critical habitat designation to the **Federal Register** by December 1, 2010, in accordance with the stipulated agreement. For additional information, please *see* the Previous Federal Actions section of the proposed rule (74 FR 65056; December 9, 2009).

Critical Habitat

Background

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

(i) 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

(I) Essential to the conservation of the species and

(II) That may require special management considerations or protection; and

(ii) 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) of the Act 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 it was listed must contain the physical and biological features essential to the conservation of the species, and be included if those features may require special

management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the physical and biological features laid out in the appropriate quantity and spatial arrangement essential to the conservation of the species). Under the Act and regulations at 50 CFR 424.12, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed only when we determine that those areas are essential for the conservation of the species and that designation limited to those areas occupied at the time of listing would be inadequate to ensure 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 are determining 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 critical habitat designated at a particular point in time may not include all habitat areas that we may later 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 be required for recovery of the species.

Areas that are important to the conservation of the species, but are outside the critical habitat designation, will continue to be subject to conservation actions we implement under section 7(a)(1) of the Act. Areas that support populations are also subject to the regulatory protections afforded by 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.

Physical and Biological Features

In accordance with section 3(5)(A)(i) and 4(b)(1)(A) of the Act and the regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied by the species at the time of listing to designate as critical habitat, we consider the physical and biological features essential to the conservation of the species which may require special management considerations or protection. These 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 historic, geographical, and ecological distributions of a species.

We consider the specific physical and biological features essential to the conservation of the species laid out in the appropriate quantity and spatial arrangement for the conservation of the species. We derive the specific physical and biological features for Santa Ana sucker from the biological needs of this species as described in the Critical Habitat section of the proposed rule to designate critical habitat for Santa Ana sucker, which published in the **Federal Register** on December 9, 2009 (74 FR 65056).

Based on the needs and our current knowledge of the life-history, biology, and ecology of the species and the habitat requirements for sustaining the essential life history functions of the species, we determined that Santa Ana sucker's physical and biological features consist of flowing stream habitat (*see* Primary Constituent Elements section for further discussion). However, 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 or when artificial sources of water are temporarily suspended). Some areas that we consider essential to the conservation of Santa Ana sucker may not experience flows except during major storms events. However, these areas are critically important components of naturally occurring hydrologic and geologic processes because they provide a connected hydrologic system within the historical range of this species. We have attempted to capture the dynamic nature and importance of these processes in identifying the habitat upon which Santa Ana sucker depends.

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

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, instream 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 Santa Ana sucker change, influencing the distribution of the fish over time. Therefore, even stream reaches where flows may periodically be interrupted or dewatered become essential 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 foraging, shelter during storms, and cover.

Santa Ana sucker prefers cool water temperatures but has been found in waters between 59 and 82 °Fahrenheit (F) (15 and 28 °Celsius (C)) in the Santa Ana River (Swift 2001, p. 18). Cooler water temperatures are only maintained in some areas by the upwelling of cooler groundwater, tributary flows, or shade from overhanging vegetation. Overhanging and instream 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 and integrated 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 coarse sediment for renewal of substrate in occupied areas. The primary constituent elements (PCEs; *see* Primary Constituent Elements for Santa Ana Sucker section for detailed discussion) and the resulting physical and biological features essential to the conservation of Santa Ana sucker are derived from studies of this species' habitat, ecology, and life history as described below, in the Background section of the proposed revised rule published in the **Federal Register** on December 9, 2009 (74 FR 65056), in the final listing rule published in the **Federal Register** on April 12, 2000 (65 FR 19686), in the final critical habitat designation published in the **Federal Register** on February 26, 2004 (69 FR 8839), and in the final revised critical habitat designation published in the **Federal Register** on January 4, 2005 (70 FR 425).

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 inches (in) (5 to 10 centimeters (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 Santa Ana 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 feet (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 (2003, pp. 39 and 53) concluded that there was no evident pattern in the locations Santa Ana suckers selected relative to water velocity and suggested that they preferentially seek out locations that provide the best combination of habitat parameters. 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).

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. In the Santa Ana River 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.* 2010, p. 328).

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 manmade 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 instream 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 Santa Ana suckers. In an attempt to estimate the maximum slope passable by the species, we used GIS to analyze the slopes associated with 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 suckers have not been found in areas where the instream slope exceeds 7 degrees. This could be due to the species' inability to swim up these higher gradients 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 or both. 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.

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 lifespan 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 their better body condition in the San Gabriel River (Saiki 2000, pp. 18–28).

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

Suckers (Family Catostomidae) 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 Santa Ana 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 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 (CRWQCB) 1995, pp. 4–1—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 instream 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 (CRWQCB 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, causing a reduction in algal growth and thus limiting the primary food source of Santa Ana sucker. However, 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). One measurement of turbidity is Nephelometric Turbidity Units (NTU), where turbidity level of 1.0 NTU equals 1 milligram of particulate per liter of water. Saiki *et al.* (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 but not absent in more turbid areas of 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). 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 (CRWQCB 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). However, research has indicated that anthropogenic chemicals introduced into riverine systems may have lasting negative impacts on fish reproductive success (Service 2008, p. 3). The specific impacts of residual chemicals in discharged treated wastewater (such as inorganic compounds, hydrocarbons, solvents, steroids, and hormones) are the subject of investigation for Santa Ana suckers (Service 2008, p. 2).

Cover or Shelter

Instream 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 during periods of high summer ambient temperatures. A complex stream system including tributaries that contain 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. Observations of Santa Ana sucker spawning have 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 (Swift 2001, p. 17; Haglund *et al.* 2002, pp. 69–71; Haglund *et al.* 2003, p. 11). This type of habitat is usually found along the margins of streams in proximity to emergent vegetation. Fry are found almost exclusively found 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 management may be required to maintain substrate conditions over time (Orange County Water District (OCWD) 2009, pp. 6–4—6–5).

In the hydrologically altered systems in which Santa Ana suckers exist, tributaries provide another essential function through contribution of water and coarse sediments into the mainstem of rivers. In typical unaltered stream systems periodic high flow events not only remove fine sand and silt that have covered up coarse sediments that are essential for breeding and foraging of Santa Ana sucker, they also deliver and replenish coarse sediments (*i.e.,* gravel and cobble) to occupied areas from upstream sources. Historical records indicate that the upper Santa Ana River above Seven Oaks Dam was a principle contributor of sediment to the lower reaches of the Santa Ana River (Humphrey *et al.* 2004, p. 3). However, much of the input of gravel and cobble substrate to the lower reaches of the river has decreased since the construction and operation of the Seven Oaks Dam in the upper Santa Ana River. Therefore, tributaries are of even greater importance to ensure flow velocities that clear out silt and other fine sediments from occupied areas, and to replenish essential coarse sediment to the lower reaches of the Santa Ana River. A sediment transport study of the Santa Ana River (Humphrey *et al.* 2004, p. 2) indicates that historically the upper Santa Ana River (above Seven Oaks Dam), City Creek, Plunge Creek, and Mill Creek were significant contributors of coarse sediment to the occupied reaches of the Santa Ana River. However, currently City Creek and Mill Creek are the remaining contributors of coarse sediment into the occupied reaches of the Santa Ana River since the coarse sediment that was historically delivered by the upper Santa Ana River has been trapped behind Seven Oaks Dam and Plunge Creek now contains a settling basin that has been modified for mining. Therefore, these two tributaries are the only remaining significant sources of essential coarse sediment into the mainstem of the Santa Ana River below the Seven Oaks Dam, which supplies coarse sediment downstream to the occupied reaches of the river.

Presumably there has been a reduction in transported cobble and gravel from the upper Santa Ana River because periodic high flow events have been controlled by Seven Oaks Dam, which has also trapped coarse sediment behind it. However, there has not been a similar reduction in fine sediments, such as silt and sand, to the lower reaches of the Santa Ana River (Humphrey *et al.* 2004, p. 5; Warrick and Rubin 2007, p. 3). Gravel and cobbles are essential coarse sediments for Santa Ana sucker spawning habitat (Moyle 2002, pp. 182–185). Fine sand and silt may be deposited on top of suitable coarse spawning sediment because flows have declined due to the altered fluvial process in the Santa Ana River. Tributaries and lower order streams (upstream areas) provide a source of water and coarse sediments that are transported downstream (to higher order streams) where the presence of water and coarse sediments are essential to the conservation of the species. Therefore, flows to clear out fine sand and silt from suitable spawning substrate (*i.e.,* gravel and cobble) and flows to transport suitable materials from upstream sources for maintenance of spawning substrate are essential to the conservation of Santa Ana sucker.

In the Santa Ana River, Humphrey *et al.* (2004, p. 7) states a critical flow of water of 4,000 cubic feet per second (cfs) or more is necessary to transport gravel and cobbles downstream and lower velocity flows (500–4,000 cfs) have the ability to move silt and other fine sediment that accumulates on top of suitable spawning substrates. The critical velocity necessary to move gravel and cobbles is variable depending on the conditions and location within the system. For example, during a test release of water from behind Seven Oaks Dam of approximately 2,500 cfs, boulder-sized rocks were observed moving within several hundred feet of the plunge pool (Wood 2010, pers. comm.). United States Geological Survey gauging stations along the Santa Ana River and City Creek indicate that there are flows sufficient to clear out fine sand and silt, and also flows that reach approximately 4,000 cfs and above that would deliver essential gravel and cobble substrates from upstream sources to downstream to occupied areas. These coarse sediments are a component of the physical and biological features essential to the conservation of the species (*see* Primary Constituent Elements for the Santa Ana Sucker below). In all three of the watersheds where Santa Ana sucker persists, the existence of dams has regulated flows and trapped sediments from being transported downstream. Therefore, sources of water and coarse sediments and the transport of these materials to occupied areas to create and maintain habitat conditions suitable for Santa Ana sucker breeding and foraging within these tributaries and lower order streams is essential to the conservation of the species.

Primary Constituent Elements (PCEs) for Santa Ana Sucker

Under the Act and its implementing regulations, we are required to identify the physical and biological features within the geographical area occupied by 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 designating critical habitat in areas within the geographical area that were occupied by the species at the time of listing that continue to be occupied, and that contain the PCEs in the quantity and spatial arrangement to support life-history functions essential to the conservation of the species. We are also designating areas outside the geographical area occupied by the species at the time of listing that are not occupied but are essential for 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 Santa Ana sucker is dependent upon multiple factors, including the conservation and management of areas to maintain suitable ecological functions where existing populations survive and reproduce. The areas we are designating 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 PCEs essential to the conservation of Santa Ana sucker are the following:

1. A functioning hydrological system within the historical geographic range of Santa Ana sucker that experiences peaks and ebbs in the water volume (either naturally or regulated) that encompasses areas that provide or contain sources of water and coarse sediment necessary to maintain all life stages of the species, including adults, juveniles, larvae, 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, larvae, 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. Instream 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 designated 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 Santa Ana sucker.

Special Management Considerations or Protection

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

All areas included in this final critical habitat designation will require some level of management to address the current and future threats to the physical and biological features essential to the conservation of 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, and construction and operation of golf courses; and OHV use. For discussion of the threats to 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 2005 final critical habitat rule (70 FR 425; January 4, 2005). Please also *see* Critical Habitat Units section below for a discussion of the threats in each critical habitat unit.

In addition to the threats to Santa Ana sucker and its habitat described in the final listing and previous critical habitat rules, the physical and biological features essential to the conservation of Santa Ana sucker may require special management considerations or protection to minimize habitat destruction, degradation, and fragmentation associated with the construction of dams, the operation of recreational residences, the construction of road crossings and bridges across waterways, nonnative vegetation and predators, the impacts of wildfires to riparian and instream conditions, and the degradation of water quality.

Recreational Dams

Artificial manmade dams are often constructed from boulders, logs, and trash to create pools within these rivers for fishing, swimming, wading, and bathing (Ally 2003, p. 1; Chambers Group 2004, p. 6–4). The construction of these "recreational" dams degrades instream 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. During the spawning season, these dams cause instream disruptions that 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). In addition, presumably, because water depths increase and velocities decrease, these areas may harbor nonnative predators. Management activities that could ameliorate these threats include patrolling by enforcement officers or rangers throughout the accessible recreational areas within the critical habitat designation. Prevention of recreational dams will help protect the PCEs by ensuring the hydrologic system continues to function (PCE 1) by delivering cool, clear water with sufficient food sources (PCEs 2 through 6) that are essential to the conservation of Santa Ana sucker.

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 water turbidity (PCE 4) as a result of the increased nutrient loads in the water (USFS 2007, p. 18), which lead to excessive algal growth. Management activities that could ameliorate these threats include limiting the number of allowable recreational residences and requiring that septic systems are properly functioning within areas that are hydrologically connected to areas designated as critical habitat. Limiting the number of residences and ensuring the proper function of their septic systems will help protect PCE 4 by preventing additional nutrient loads from entering the water and increasing water turbidity (PCE 4) to the detriment of Santa Ana sucker.

Road Crossings and Bridges

Road crossings and bridges constructed across waterways can impact Santa Ana sucker by creating permanent or intermittent barriers to upstream movement and fragmenting connective corridors between areas of occupied habitat (PCE 7). 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. Drop structures that function as a support for road crossings or bridges as a result of gradient changes within the river may also create a temporary barrier to water and sediment transport and Santa Ana sucker movement. The extent, however, to which these structures constitute 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. Management activities that could ameliorate these threats include modifying culverts or drop structures to ensure the connective corridor is maintained through a gradient that is passable by water and sediment and Santa Ana suckers (*i.e.,* 7 degrees as described in the Criteria Used To Identify Critical Habitat section) within the critical habitat designation. Maintenance of these corridors (PCE 7) and ensuring a passable gradient (PCE 1) will help protect the PCEs (2 through 5) that are essential to the conservation of Santa Ana sucker.

Water and Sediment Transport or Removal

The transport of both water and sediment are essential components to the conservation of Santa Ana sucker (PCEs 1 through 5). The presence of sufficient water and appropriate sediment may be impacted by operations attributed, but not limited to, dams operation of hydroelectric power facilities, water diversion, sediment removal, or flood control activities. Natural flow regimes have inevitably been impacted in the Santa Ana River, Los Angeles River, and San Gabriel River basins as a result of alterations such as dams, diversions, channelization, or other flood control activities. The impacts to Santa Ana sucker and its habitat attributable to these activities have yet to be fully described or understood. However, as these activities continue, there appear to be impacts to Santa Ana sucker and its habitat through alteration of the hydrologic system and the function of the watershed as a whole. Recent research indicates that the presence of preferred substrates such as gravel and cobble in the Santa Ana River are less common at sites farther downstream compared to sites that are closer the Seven Oaks Dam (Thompson *et al.* 2010, p. 328). This is likely due to the presence of flowing water from the Rialto/RIX sewage treatment plant immediately upstream that clears out silt and fine sand and exposes gravel and cobbles; however, the flow diminishes downstream due to percolation. Therefore, in the occupied areas of the Santa Ana River, downstream areas contain less suitable habitat for Santa Ana sucker (Thompson *et al.* 2010, pp. 327–328).

The extant populations of Santa Ana suckers throughout the species' range are currently isolated from one another as a result of water diversions or dams that have likely resulted in their exclusion from suitable spawning and rearing habitat (Service 2000, p. 19693). Management activities that could ameliorate these threats throughout the species' range include removing or preventing channelization and restoring the river with its natural substrates and riparian vegetation, increasing flows into occupied areas by decreasing the amount of water contained by dams or removed from the hydrologic system, preventing mining activities that remove coarse sediments, and preventing further instream modifications from flood control activities throughout the critical habitat designation. Maintenance of the natural flow (PCEs 3, 4, and 5) and sediment transport (PCE 2) will help protect the PCEs that are essential to the conservation of Santa Ana sucker.

Off-Highway or Off-Road Vehicles (OHVs)

Throughout the designated critical habitat, OHV use occurs in authorized and unauthorized areas. We are aware of authorized OHV activity in the USFS's San Gabriel Canyon OHV Area at the junction of the East, North, and West Forks of the San Gabriel River. There have been reports of unauthorized OHV activity in the Santa Ana River, although the level of impact and frequency of use have not been quantified. However, the reach where the unauthorized OHV activities have been reported occurs just upstream of one of the remaining Santa Ana sucker populations (near Rialto/RIX; SAWPA 2010, p. 1–10). This area has recently been cleared of the nonnative plant, *Arundo donax,* which may have facilitated access for OHVs. The use of the river as an OHV recreational area may result in adverse effects to 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). Management activities that could ameliorate these threats include patrolling by enforcement officers or rangers throughout the accessible recreational areas, providing signage to discourage access, or installing fencing where access is unauthorized within the critical habitat designation. Minimizing the impacts to the hydrologic system (PCE 1) and reducing the instream impacts (*i.e.,* increased turbidity (PCEs 2 and 4)) and impacts to instream and riparian vegetation (PCE 6) attributed to OHVs will help protect the PCEs that are essential to the conservation of Santa Ana sucker.

Nonnative Vegetation and Nonnative Predators

The presence of nonnative vegetation (such as *Arundo donax*) may alter the hydrology and provide habitat conditions preferred by nonnative predators (such as largemouth bass and green sunfish) in the Santa Ana River and Big Tujunga Creek, and possibly (but to a lesser degree) in the San Gabriel River. These impacts may include (but not be limited to) decreased flow rates (PCE 3), increased turbidity (PCE 4), increased presence of pools and lack of preferred habitat (PCE 2), and increased abundance of nonnative predators (Service unpublished information 2010b, pp. 24–25). However, these types of impacts would need to be evaluated within the context of potential threats to the Santa Ana sucker. If this potential threat is found to impact the species, management activities to ameliorate this threat could include removal of nonnative vegetation and predators.

Post-Wildfire Management

The Station Fire of 2009 (described in more detail in Critical Habitat Units—Unit 3: Big Tujunga and Haines Creeks section below) may have long-lasting impacts to the Big Tujunga and Haines Creeks. These impacts may include (but not be limited to) increased debris-flow and flow velocity (PCEs 3 and 6) due to the lack of vegetation and increased run-off, increased turbidity (PCE 4) from the residual ash in the area and increased flow speeds, and possible residual contaminants entering the system as a result of the firefighting retardant chemicals which can alter water chemistry. The loss of riparian vegetation is likely to increase water temperature in the river due to the lack of shading available to instream habitats (USFS 2009, pp. 5–6). Management activities that could ameliorate these threats include revegetation of upland and riparian areas to stabilize hillsides and riparian zones to prevent erosion, and removal of large debris within the critical habitat designation before winter rains commence. Revegetation of upland and riparian areas will decrease debris flow and stabilize soils (PCEs 2, 4, and 6), which will help protect the PCEs that are essential to the conservation of Santa Ana sucker.

Water Quality Degradation

Although specific water quality tolerances have not been evaluated for Santa Ana sucker, elevated water temperature, diminished dissolved, oxygen, elevated turbidity, elevated specific conductance, and presence of certain chemicals (such as pharmaceuticals or endocrine disrupting compounds) from treated wastewater may impact Santa Ana sucker. These impacts may affect the physical and biological features essential to the conservation of the Santa Ana sucker and may include (but not be limited to) increased water temperatures (PCE 5), increased turbidity (PCE 4), and changes in instream food sources (PCE 6) that may have long-lasting effects on individual and population growth (reproductive success) and other normal behaviors. Management activities that could ameliorate these threats include identification of thresholds and tolerance levels specifically for Santa Ana sucker, implementation of water quality standards or regulations throughout its range, and minimization of discharges of harmful chemicals into the watersheds. Water quality regulations that address Santa Ana sucker's water quality requirements (PCEs 4, 5, and 6) will help protect the PCEs that are essential to the conservation of Santa Ana sucker.

Criteria Used To Identify Critical Habitat

As required by section 4(b) of the Act, we used the best scientific and commercial data available to designate critical habitat. We only designate areas outside the geographical area occupied by a species when a designation limited to its present range would be inadequate to ensure the conservation of the species (50 CFR 424.12(e)).

At the time 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). The listing rule details survey results that identify the following areas in each river basin as being within the geographical 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 final revised critical habitat designation for 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), and 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; they are therefore considered outside the geographical area occupied by the species at the time of listing: the upper Santa Ana River watershed, including City and Mill Creeks and the Santa Ana River (above La Cadena Drive 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.

We are including in this final critical habitat designation all areas within the geographical area occupied by the listed Santa Ana sucker at the time of listing that also meet Criteria 1 through 3 below. These areas are all currently occupied. We are also including areas in this final critical habitat designation 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 for the conservation of the species under Criteria 4 through 7 below. This final revised rule updates our 2005 final critical habitat designation for Santa Ana sucker with the best available data. For some areas that were analyzed in 2005, we have new information that led us to either add or remove an area from the proposed revised critical habitat designation and subsequently from this final rule.

For areas within the geographical 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 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 are no significant instream 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. We also 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 detect the presence of instream barriers.

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

2. Using aerial imagery, we delineated the lateral extent (width) of the final 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 stage fish. 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 final revised critical habitat to encompass the entire floodplain up to the upper limit of riparian vegetation or to the edge of a permanent barrier (such as a levee). Areas within the lateral extent exhibit the PCEs because they contain: (a) A functioning hydrological system characterized by peaks and ebbs in the water volume that encompasses areas that provide or contain sources of water and coarse sediment (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 are 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 final revised critical habitat for areas within the geographical area occupied at the time of listing using the nearest occurrence polygon or point to either the point of a natural or manmade barrier or to the point where the instream gradient exceeds a 7 degree slope, either of which would prevent further movement of 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 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 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 suckers have not been found in areas where the instream slope exceeds 7 degrees. In the absence of additional research on this subject, we made the assumption that a slope of 7 degrees constitutes the maximum instream gradient passable by Santa Ana sucker and applied this assumption when delineating the upstream extent of the final 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 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 or both. Therefore, we assume these high-gradient (greater than 7 degrees) areas do not contain the physical and biological 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 for the conservation of this species and should be included in the final revised designation. We determined that certain areas outside the geographical area occupied by the species at the time it was listed are essential for the conservation of the species because they are areas that provide or contain sources of water and coarse sediment (PCE 1) necessary to maintain preferred substrate conditions (PCE 2) in occupied portions of the species' range.

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 upper Santa Ana River Subunit (Subunit 1A), we determined that the following three 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 from Tippecanoe Avenue to just below Seven Oaks Dam. Mill Creek has never been documented as being occupied by Santa Ana sucker. City Creek and the Santa Ana River above Tippecanoe Avenue are not currently occupied, but were historically occupied based on a 1982 California Natural Diversity Database record and a 1940 University of Michigan Museum of Zoology (UMMZ) Fish Collection database record, respectively.

We determined that the Santa Ana River above Tippecanoe Avenue, Mill Creek, and City Creek are essential for the conservation of the species because they are areas that provide or contain sources of water and coarse sediment (PCE 1) that may be transported downstream and are necessary to maintain preferred substrate (PCE 2) conditions in occupied portions in the Santa Ana River. Using aerial imagery, we determined that the Santa Ana River above Tippecanoe Avenue, Mill Creek, and City Creek have large, unimpeded watersheds based on the following morphological characteristics: (i) A wide floodplain area; (ii) the presence of complex channels (such as braided channels); and (iii) a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins (PCE 2). The area above Tippecanoe Avenue provides a source of water that is essential to the conservation of the species. Although the Seven Oaks Dam does regulate the flow of water downstream, it cannot

operate as a water holding or conservation facility without further consultation (Service 2002, p. 5; CRWQCB 2009, p. 24), and water must be passed through the dam. Water released from the dam is most important when winter storm water is transported downstream in high quantity and velocity. These flow events allow the river to meander through the floodplain and expose buried gravel and cobbles that are essential to the conservation of Santa Ana sucker. 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 the Santa Ana River (including areas above Tippecanoe Avenue), City Creek, and Mill Creek as pathways to transport storm and stream waters (PCE 1) and sediments necessary to maintain preferred substrates (PCE 2) to occupied portions of the Santa Ana River is essential for the conservation of the species.

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. These areas provide sufficient quantities of stream and storm waters (PCE 1) necessary to transport sediments 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 flowing into Big Tujunga Creek, based on the following morphological characteristics: (i) A wide floodplain area; (ii) the presence of complex channels (such as braided channels); and (iii) 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 for the conservation of the species.

While we are not aware of any surveys for 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 Santa Ana sucker. The slope of Gold Canyon Creek from approximately 0.49 mi (0.8 km) upstream from its confluence with Big Tujunga Creek also appears to be too steep to be passable by Santa Ana sucker.

5. Using aerial imagery, we delineated the lateral extent of final revised critical habitat in the Santa Ana River above Tippecanoe Avenue, and in City, 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.

6. We delineated the upstream limits of final revised critical habitat in the Santa Ana River above Tippecanoe Avenue, and in City, 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.

7. We delineated the upstream and downstream extents of the final revised critical habitat in historically occupied areas of City Creek and the Santa Ana River above Tippecanoe Avenue 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 instream gradient exceeds a 7 degree slope, either of which we have assumed prevents further movement of Santa Ana sucker.

When determining critical habitat boundaries within this final rule, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical and biological features for 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 such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this final rule are excluded by text in the rule and are not designated as critical habitat. Therefore, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the physical and biological features in the adjacent critical habitat.

In summary, we are designating as critical habitat lands that we determined were occupied at the time of listing and contain sufficient physical and biological features to support life-history functions essential to the conservation of the species and lands outside the geographical area occupied at the time of listing that we determined are essential for the conservation of Santa Ana sucker.

Summary of Changes From Previously Designated Critical Habitat

The areas designated as critical habitat in this final rule constitute a revision of the critical habitat for Santa Ana sucker we designated on January 4, 2005 (70 FR 425). In this revised rulemaking we:

1. Refined the primary constituent elements (PCEs) to more accurately define the physical and biological features that are essential to the conservation of Santa Ana sucker;

2. Revised criteria to more accurately identify critical habitat;

3. Improved mapping methodology to more accurately define critical habitat boundaries and better represent areas that contain PCEs;

4. Reevaluated areas considered for exclusion from critical habitat designation under section 4(b)(2) of the Act; and

5. Added to, subtracted from, and revised those areas previously identified as essential to the conservation of Santa Ana sucker to accurately portray lands that meet the definition of critical habitat based on the best scientific data available. Table 1 provides an overview of the differences between 2004 and

2005 final critical habitat rules, 2009 proposed revised critical habitat, and this final critical habitat rule for Santa Ana sucker at the Unit and Subunit level.

The areas identified in this final rule constitute a revision of the areas designated as critical habitat for Santa Ana sucker on January 4, 2005 (70 FR 425). 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 (which totaled 15,414 ac (6,238 ha)) in San Bernardino, Riverside, and Orange Counties under section 4(b)(2) of the Act.

In the 2009 proposed revised rule, we proposed to designate a total of 9,605 ac (3,887 ha) in San Bernardino, Riverside, Orange, and Los Angeles Counties as critical habitat for Santa Ana sucker. In the subsequent document that made available the DEA (75 FR 38441; July 2, 2010), we proposed to designate an additional 38 ac (15.38 ha) in Subunit 1A as critical habitat for Santa Ana sucker. In this final rule, we are designating a total of 9,331 ac (3,776 ha) in Los Angeles, Orange, San Bernardino, and Riverside Counties. Table 1 below outlines the changes in areas in each Unit or Subunit between the 2004 and 2005 critical habitat designations and this revised critical habitat designation.

TABLE 1—CHANGES BETWEEN THE FEBRUARY 26, 2004, CRITICAL HABITAT DESIGNATION (2004 FCH); THE JANUARY 4, 2005, CRITICAL HABITAT DESIGNATION (2005 FCH); THE DECEMBER 9, 2009, PROPOSED CRITICAL HABITAT DESIGNATION (2009 PRCH); THE JULY 2, 2010, FEDERAL REGISTER DOCUMENT MAKING AVAILABLE THE DEA (2010 NOA); AND THIS FINAL REVISED CRITICAL HABITAT DESIGNATION (2010 FCH)

[Values in this table may not sum due to rounding; * indicates area that was not included in the critical habitat designation]

County	2004 fCH		2005 fCH		2009 prCH		2010 NOA		2010 fCH	
	Unit/ subunit	Area designated or essential	Unit/ subunit	Area designated or essential	Unit/ subunit	Area designated or essential	Unit/ subunit	Area designated or essential	Unit/ subunit	Area designated or essential
Los Angeles	3	3,655 ac (1,479 ha)	3	2,540 ac (1,028 ha)	3A	1,189 ac (481 ha)	3A	1,189 ac (481 ha)	3A	1,189 ac (481 ha)
					3B	44 ac (18 ha)	3B	44 ac (18 ha)	3B	44 ac (18 ha)
	2	5,765 ac (2,333 ha)	2	5,765 ac (2,333 ha)	2	1,000 ac (405 ha)	2	1,000 ac (405 ha)	2	1,000 ac (405 ha)
San Bernardino	1A	3,535 ac (1,431 ha)			1A	1,900 ac (768 ha)	1A	1,938 ac (784 ha)	1A	1,559 ac (631 ha)
	1B	8,174 ac (3,308 ha).								
San Bernardino and Riverside.	N/A	N/A	1	15,414 ac (6,238 ha)*	1B	4,704 ac (1,903 ha)	1B	4,704 ac (1,903 ha)	1B	4,771 ac (1,931 ha)
Riverside and Orange	N/A	N/A			1C	767 ac (311 ha)	1C	767 ac (311 ha)	1C	767 ac (311 ha)
Total Designated		21,129 ac (8,551 ha)		8,305 ac (3,361 ha)		9,605 ac (3,887 ha)		9,643 ac (3,902 ha)		9,331 ac (3,776 ha)

Summary of Changes From the 2005 Final Critical Habitat to This Final Critical Habitat Designation

As described below, some areas designated in the 2005 final rule are not being designated as critical habitat in this final rule. Also, some areas are designated as critical habitat in this final rule that were not designated in 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 1,026 ac (415 ha) in this final rule compared to the January 4, 2005, final revised designation (70 FR 425) (Table 1). These differences primarily resulted from the following changes to all of the units included in this final revised critical habitat designation, as well as the 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 final rule, we delineated areas that contain the PCEs using current aerial imagery (*see* Criteria Used To Identify Critical Habitat section). This revised mapping method resulted in a significant overall decrease in the areas deemed essential and included in the final 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 designating 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 designated as critical habitat (*see* Criteria Used To Identify Critical Habitat section of this final 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 Santa Ana sucker or are otherwise essential for the conservation of the species. As a result, some areas designated as Santa Ana sucker critical habitat in 2005 were removed from the 2009 proposed revised rule and this final rule (as described below) because they do not contain the physical and biological features required by 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 final rule, we are designating a total of 5,535 ac (2,241 ha) as critical habitat in Subunits 1B and 1C, which correspond roughly to Unit 1 in the 2005 final rule and not excluding any areas under section 4(b)(2) of the Act. The 9,879-ac (3,998-ha) difference between the area identified as Unit 1 in the 2005 final rule and Subunits 1B and 1C in this final 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

considered essential to the conservation of the species but excluded under section 4(b)(2) of the Act. In this final rule, we removed from Subunits 1B and 1C (the area roughly corresponding 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 critical habitat rule, the Prado Basin where Chino and Temescal Creeks and the Santa Ana River converge was considered essential to the conservation of the species, but we excluded this area under section 4(b)(2) of the Act. In this final rule, we are not designating 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 critical habitat rule, we did not designate Subunit 1B (Santa Ana Wash; 8,174 ac (3,308 ha)) as critical habitat because we determined this area to be "nonessential." We revisited that determination in our 2009 proposed revised critical habitat rule and this final critical habitat designation 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. We changed our conclusion because we believe the 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 of the Santa Ana River. These waters are critical to maintain 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 designating 1,559 ac (631 ha) in City and Mill Creeks and the Santa Ana River (below Seven Oaks Dam) as part of Subunit 1A, which composed 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 are not otherwise essential for the conservation of the Santa Ana sucker, and we have not included them as part of Subunit 1A.

Unit 2: San Gabriel River (Los Angeles County)

1. In the 2005 critical habitat rule, we designated 5,765 ac (2,333 ha) as critical habitat in Unit 2. In this final rule, we are designating 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 final rule, we removed the upstream sections of the following creeks/rivers (which were designated in the 2005 final rule), because our analysis indicates that the slope of these upstream sections exceeds 7 degrees; 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 final rule, we removed the entire extent of Shoemaker Canyon Creek (0.99 mi (1.59 km)) that was designated in the 2005 final rule because based on our calculations, the slope of this creek exceeds 7 degrees; 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 final rule, we removed the entire extent of Burro Canyon Creek (0.74 mi (1.19 km)) that was 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 extending 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 Santa Ana sucker, but because the area had not been proposed as critical habitat or delineated on the map or the legal description for this unit, it was not included in the 2005 final rule (70 FR 425; January 4, 2005).

Unit 3: Big Tujunga Creek (Los Angeles County)

1. In the 2005 critical habitat rule, we designated 2,540 ac (1,028 ha) as critical habitat in Unit 3. In this final rule, we are designating 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 final rule, we removed an upstream 0.26-mi (0.42-km) section of Delta Canyon Creek (Subunit 3B) and an upstream 0.13-mi (0.21-km) 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 designating additional portions of Gold Canyon Creek (Subunit 3B) by extending the upstream boundary of critical habitat in 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 for 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 are designating approximately 160 ac (65 ha) of the privately owned Angeles National Golf Club in Subunit 3A in this final rule. Specifically, we are designating 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 final critical habitat. Permanent structures and facilities associated with the golf course (such as buildings) and fairways and greens outside of the floodplain do not contain the PCEs and are therefore not considered critical habitat.

The majority of the Angeles National Golf Club 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, and lies between the confluence of Big Tujunga and Haines Creeks. Stream flow 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 the Big Tujunga Mitigation Bank, a conserved habitat area, which supports 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.

Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation

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

In the proposed critical habitat revision that published with the document that made available the DEA on July 2, 2010 (75 FR 38441), we added approximately 38 ac (15 ha) to Subunit 1A in a portion of Plunge Creek, a tributary of the Santa Ana River that is located in San Bernardino County upstream of the confluence of the Santa Ana River with City Creek, to serve as an area for possible reintroduction efforts. This area was proposed in response to public comment during the first comment period. Additionally, the portion of Subunit 1A located above Seven Oaks Dam was included in the 2009 proposed revised rule (74 FR 65056; December 9, 2009). In this final critical habitat designation, we conclude that these areas are not essential. We lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. In particular, we lack supporting information regarding the feasibility of introducing Santa Ana sucker at either location (such as water quality conditions, reliability of water flows, and presence of predatory and competing species). Furthermore, upstream movement of Santa Ana suckers from the Santa Ana River mainstem into Plunge Creek is precluded due to mining operations that make the habitat unsuitable for the fish (including a dry stretch of the creek), while such movement is also precluded into the upper Santa Ana River and Bear Creek because of the Seven Oaks Dam. Additionally, we lack a comprehensive conservation strategy for Santa Ana sucker. Therefore, we cannot conclude at this time that these areas are essential for the conservation of the species.

As discussed in the Critical Habitat section below, because any designation of critical habitat may not include all habitat areas that we may eventually determine are necessary for the recovery of a species, this critical habitat designation should not signal that habitat outside the designated area is unimportant or may not promote the recovery of Santa Ana sucker (*e.g.,* reintroduction sites). We plan to initiate development of a recovery plan in 2011, which may include the establishment of a recovery team that would seek the involvement of species experts, habitat experts, and stakeholders. We anticipate this recovery effort would evaluate the need for reintroduction and, if needed, evaluate these areas and other sites within the historical range of the species for potential recovery efforts.

In the proposed revised critical habitat rule (74 FR 65056; December 9, 2009) and for the document that made available the DEA (75 FR 38441; July 2, 2010), we misprinted area estimates of acreages by land owners in Unit 1. We have corrected this error, and acreages are correctly represented in Table 2 below and the textual descriptions of each Subunit in Unit 1 below.

In the proposed revised critical habitat rule (74 FR 65056; December 9, 2009) and document making available the DEA (75 FR 38441; July 2, 2010), we evaluated areas considered for exclusion under section 4(b)(2) of the Act in the Santa Ana River that are covered by the Santa Ana Sucker Conservation Program (SAS Conservation Program) and the Western Riverside County MSHCP, including identifying whether or not these areas are or are going to be conserved and managed for the benefit of Santa Ana sucker. In this rule, we determined whether the areas were already conserved and managed for the benefit of Santa Ana sucker, and analyzed, under section 4(b)(2) of the Act, whether the benefits of exclusion from the critical habitat designation outweigh the benefits of including these areas.

Final Critical Habitat Designation

We are designating three units as critical habitat for Santa Ana sucker. The critical habitat areas described below constitute our best assessment at this time of areas that meet the definition of critical habitat for Santa Ana sucker. Table 2 identifies the approximate area of each critical habitat unit by land ownership. These units replace the current critical habitat designation for Santa Ana sucker in 50 CFR 17.95(e). 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 that contain the physical and biological features essential to the conservation of the species and 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 but that are essential for the conservation of the species (*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 SANTA ANA SUCKER FINAL REVISED CRITICAL HABITAT

[Values in this table may not sum due to rounding]

Critical habitat unit	County	Land ownership			Total area
		Federal	State or local government	Private	
Unit 1: Santa Ana River					
Subunit 1A: Upper Santa Ana River.	San Bernardino	74 ac (30 ha)	95 ac (38 ha)	1,389 ac (562 ha)	1,559 ac (631 ha)
Subunit 1B: Santa Ana River.	San Bernardino and Riverside.	521 ac (211 ha)	2,854 ac (1,155 ha)	1,396 ac (565 ha)	4,771 ac (1,931 ha)
Subunit 1C: Lower Santa Ana River.	Riverside and Orange	0 ac (0 ha)	56 ac (23 ha)	711 ac (288 ac)	767 ac (311 ha)
	Unit 1 Total	595 ac (241ha)	3,006 ac (1,217ha)	3,496 ac (1,4l5ha)	7,097 ac (2,872ha)
Unit 2: San Gabriel River					
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: Big Tujunga and Haines Creeks.	Los Angeles	242 ac (98 ha)	0 ac (0 ha)	947 ac (383 ha)	1,189 ac (481 ha)
Subunit 3B: Gold, Delta, and Stone Creeks.	Los Angeles	44ac (18 ha)	0 ac (0 ha)	0 ac (0 ha)	44 ac (18 ha)
	Unit 3 Total	286 ac (116ha)	0 ac (0 ha)	947 ac (383 ha)	1,233 ac (499 ha)
	Total	1,798 ac (728 ha)	3,006 ac (1,217 ha)	4,526 ac (1,832 ha)	9,331 ac (3,776 ha)

Critical Habitat Units

Presented below are brief descriptions of all units and reasons why they meet the definition of critical habitat for 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 7,097 ac (2,872 ha) of Federal (U.S. Army Corps of Engineers and USFS), local government, and private land (Table 2). The purpose of this unit is to independently support a population of Santa Ana sucker in a functioning hydrologic system that provides suitable water quality, supply, and coarse sediment. One currently unoccupied subunit (Subunit 1A) provides essential sources of water and coarse sediment to occupied portions of the unit.

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: 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 lower portion of the Santa Ana River below its confluence with City and Mill Creek is adjacent to urban development, while the upstream portions of City Creek and Mill Creek are in the San Bernardino National Forest. Lands in this subunit are under Federal (USFS and Bureau of Land Management (BLM)) (74 ac (111 ha)), State/Local (95 ac (38 ha)), and private (1,389 ac (562 ha)) ownership (Table 2).

Subunit 1A is outside the geographical area occupied by the species at the time of listing and is not currently occupied. While City Creek and the Santa Ana River above Tippecanoe Avenue are not currently occupied, these areas were historically occupied based on a 1982 California Natural Diversity Database record and a 1940 University of Michigan Museum of Zoology Fish Collection (UMMZ) database record, respectively, and City Creek currently provides suitable habitat conditions for Santa Ana sucker (OCWD 2009, pp. 5–71–5–76). Mill Creek is not known to be historically or currently occupied and does not provide suitable habitat conditions for Santa Ana sucker; however, we determined this area to be essential for the conservation of the species because of the process of water and coarse sediment transport that it provides. The Santa Ana River above Tippecanoe Avenue, Mill Creek, and City Creek provide stream and storm waters (PCE 1) which are necessary to transport coarse sediments necessary to maintain preferred substrate (PCE 2) conditions in occupied portions in the Santa Ana River and we determined that these areas are essential for the conservation of the species because of the process of water and coarse sediment transport that they it provide. The creation and operation of Seven Oaks Dam has regulated water flow and impeded the transport of coarse sediment. However, because the operation of Seven Oaks Dam, in coordination with Prado Dam downstream, is currently permitted for flood control operations only (operations only regulate flows throughout the year in an effort to

prevent catastrophic flow events downstream) and not for water storage purposes (Service 2002, pp. 3–6), the flow of water through the dam still provides water necessary for occupied reaches of the Santa Ana River downstream. Storing water for the purpose of water conservation (*i.e.,* diversions or storage for water sales) is not currently authorized, nor was proposed as a purpose for Seven Oaks Dam (Service 2002, p. 5). Although there has recently been a CRWQCB decision to allow up to 200,000 acre-feet to be diverted from the Seven Oaks Dam reservoir, this potential action has not been evaluated or approved by the Federal agencies involved. The CRWQCB stated that water conservation operations will be the responsibility of the water agency and the appropriate Federal agencies will need to be consulted before water can be diverted for water conservation (*i.e.,* sale) purposes (CRWQCB 2009, p. 23).

As stated above, this subunit is relatively unmodified compared to the other subunits in this unit, with the exception of the upper Santa Ana River that contains Seven Oaks Dam and the lower portion of City Creek that is adjacent to urbanized areas. The critical habitat designated in this subunit is threatened by impacts associated with, but not limited to, water diversion, dams, operation of hydro-electrical power facilities, or alteration of streambeds. We consider the magnitude of threats to be less severe than those in the lower watershed because the majority of the subunit is relatively unmodified and portions are within the San Bernardino National Forest. Nonetheless, we also recognize that active management and special management considerations or protection may be needed in this subunit (*see* Special Management Considerations or Protection section above).

Although areas of the Santa Ana River above South La Cadena Drive and some of its associated tributaries generally dry during the summer, portions of the upper Santa Ana River system (within San Bernardino County) have a higher gradient and a greater percentage of gravel and cobble substrate than the occupied areas that are downstream (Warrick and Rubin 2007, pp. 1–2). Santa Ana suckers spawn over gravel substrates, where their eggs can adhere to gravel before hatching into larvae. Flood events or high winter flows from upstream areas annually replenish this coarse substrate and clean sand and silt from it (Kondolf 1997, pp. 533–535). Additionally, Santa Ana suckers feed by scraping algae, insects, and detritus from gravel and cobble. Therefore, the spawning and feeding substrates (gravel and cobble) which are replenished by upstream sources are essential to the reproductive ability and development of Santa Ana suckers in the downstream occupied reaches (Kondolf 1997, pp. 533–535, 536–537). The section of the Santa Ana River from above Tippecanoe Avenue in San Bernardino, City Creek, and Mill Creek (although not currently occupied) have become particularly essential for the conservation of the species since the Seven Oaks Dam has reduced the transport of coarse sediment and altered the natural flow in the downstream, occupied areas of the Santa Ana River. They are in fact the primary sources of coarse sediment in the upper Santa Ana River watershed (PCE 2) and additionally are part of the Santa Ana River hydrologic system (PCE1), and assist in maintaining water quality (PCE 4) and temperature (PCE 5) to occupied reaches of the Santa Ana River; therefore, these areas are essential for the conservation of Santa Ana sucker (*see* Sites for Breeding, Reproduction, and Rearing (or Development) of Offspring section above).

In our process of determining what areas meet the criteria of occupied critical habitat, it became apparent that habitat and hydrological modifications that have been occurring for many years in the Santa Ana River have decreased the areas suitable for occupation by the Santa Ana sucker (Moyle 2002, p. 184; Thompson *et al.* 2010, p. 330). The presence of two large dams operating in coordination have altered and will continue to alter the flow of water and coarse sediments in the Santa Ana River (Chang 2000, p. 3) that are necessary for essential life cycle processes of Santa Ana sucker. Specifically, the models used to predict the transport of sediment throughout the Santa Ana River and surveys have confirmed that sediment has been significantly degraded in the Santa Ana River from the E Street USGS gauge (#11059300) to the Metropolitan Water District crossing USGS gauge (#11066460) and deposited above and below these areas (Humphrey *et al.* 2004, pp. 6–7). The deposition and degradation of sediments throughout the Santa Ana River will eventually level the gradient of the Santa Ana River between the Seven Oaks and Prado Dams. This ongoing process, which modifies and degrades the Santa Ana sucker's habitat, highlights the importance of designating areas that provide for essential processes, such as water and coarse sediment transport to occupied areas downstream. Therefore, we have determined that City Creek, Mill Creek, and the Santa Ana River above Tippecanoe Avenue are essential for the conservation of the species because they provide for essential processes, such as water and coarse sediment transport.

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 approximately 22 mi (35 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 (U.S. Army Corps of Engineers) (521 ac (211 ha)), State/Local (2,854 ac (1,155 ha)), and private (1,396 ac (565 ha)) ownership (Table 2).

Areas within this subunit are within the geographical area occupied by the species at the time of listing, most are currently occupied, and all contain physical and biological features essential to the conservation of the species and may require special management considerations or protection. An approximate 5.1-mile (8.1-km) portion of the Santa Ana River between La Cadena Drive and Tippecanoe Avenue within Subunit 1B is not currently occupied due the barrier to upstream dispersal at La Cadena Drive; however, this areas was considered occupied at the time of listing and is essential to the conservation of the species and contains sources of water and coarse sediment (PCE 1) essential to the conservation of Santa Ana sucker. This subunit has been heavily impacted by urban development and threats to Santa Ana sucker and its essential features in this subunit result from impacts associated with, but not limited to: Water diversion; dams; water quality impacts from non-point source and point source pollution (including untreated urban run-off and discharge of treated wastewater); and altered hydrology throughout the watershed (including alterations from instream barriers, construction of bridges, channelization, and other flood control structures). Special management considerations or protection may be needed in this subunit to protect its essential features (*see* Special Management Considerations or Protection section above).

Recent surveys 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, and 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 will 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). However, the La Cadena Bridge drop-structure currently acts as a barrier to upstream migration at all flow levels. Rialto Drain and Sunnyslope Creek are the only tributaries to the Santa Ana River 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 is a strong indication 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 on discharges from tertiary wastewater treatment plants and upwelling of ground water within the Unit (CRWQCB 1995, pp. 1–4–1–8; 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 Santa Ana sucker. However, it appears that these wastewater flows are not sufficient to deliver coarse sediment downstream (Thompson *et al.* 2010, pp. 327–328). The discharge of treated wastewater effluent along with the upwelling of groundwater also lowers instream water temperature to some extent in portions of the Santa Ana River (Chadwick and Associates, Inc. 1992, p. 26) (PCE 5), and rising groundwater in the Riverside Narrows feeds several small tributaries to the Santa Ana River, including the Sunnyslope Creek (CRWQCB 1995, pp. 1–4–1–8; Swift 2001, p. 3) (PCE 1). Rialto Drain and Sunnyslope Creek contain gravel and cobble substrate, with some sand accumulation along channel edges and 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 air 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 run-off from surrounding urban areas. Also, with the exception of their confluence with the mainstem, it appears these other tributaries to the Santa Ana River have been modified such that they 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 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 section for further discussion of the threats to 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 approximately 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. Tributaries to the Santa Ana River in this subunit may provide water and storm water flows necessary to maintain preferred substrate conditions in the occupied portion of the Santa Ana River (PCE 1). However, 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. Lands within this subunit are under State/Local (56 ac (23 ha)) and private (711 ac (288 ha)) ownership (Table 2).

All areas in Subunit 1C are within the geographic area occupied by the species at the time of listing and contain the features essential to the conservation of the species and may require special management considerations or protection. This species has been found in the vicinity of the Gypsum Canyon Bridge, Weir Canyon drop structure, and the Imperial Highway overpass (Chadwick Ecological Consultants, Inc. 1996, p. 9; Swift 2000, pp. 15–20; Baskin and Haglund 2001, pp. 1–5). More recently Santa Ana suckers were collected just below Prado Dam (SMEA 2008, p. 1; Lovan 2010, pers. comm.).

This subunit has been heavily impacted by urban development and threats to Santa Ana sucker and its essential features in this subunit result from impacts associated with, but not limited to: Water diversion; dams; water quality impacts from non-point source and point source pollution (including untreated urban run-off and discharge of treated wastewater); and altered hydrology throughout the watershed (including alterations from instream barriers, construction of bridges, channelization, and other flood control structures). We also recognize that special management considerations or protection may be needed in this subunit to protect its essential features (*see* Special Management Considerations or Protection section above).

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 that have constricted or redirected the stream channel in many places. 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 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 final 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, contain the features essential to the conservation of the species and may require special management considerations or protection. Unit 2 is the only unit designated as critical habitat that, overall, has a sediment transport and hydrological regime existing in a near-natural state. The function of Unit 2 is to independently support a population of Santa Ana sucker within a relatively intact watershed that provides good water quality and supply, and sediment transport. The Santa Ana suckers in this unit are the only extant population of the species that is not chronically exposed to urban runoff or tertiary-treated wastewater discharges. Additionally, this unit does not have a regulated water supply (with the exception of the West Fork of the San Gabriel River). However, threats to Santa Ana sucker and its essential features in this unit result from impacts associated with, but not limited to: Water diversion; dams; water quality impacts as a result of increased run-off due to a recent, intense wildfire event; and recreational use impacts from OHVs or other recreational uses on National Forest lands. We also recognize that special management considerations or protection may be needed in this subunit to protect its essential features (*see* Special Management Considerations or Protection section above).

In addition to surveys discussed in the listing rule (65 FR 19686; April 12, 2000) and in the previous designation of critical habitat for Santa Ana sucker (70 FR 425; 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 (Haglund and Baskin 1992, p. 32; O'Brien 2009a, pp. 2–3; Ally 2004b, pp. 8–9, 14–15, 22, 24–25, 28; Ally 2004c, pp. 9–10, 13–14, 16–17; 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.

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 may be increased over usual conditions (PCE 4) (Ally 2004a, p. 36). Previous releases from Cogswell Dam containing more than 200,000 cubic yards (152,911 cubic meters) of silt and other sediment have severely impacted the habitat of the West Fork of the San Gabriel River and San Gabriel Reservoir (Drake 1988, p. 7; Haglund and Baskin 1992, p. 57; Moyle and Yoshiyama 1992, p. 204; Moyle *et al.* 1995, p. 203; Moyle 2002, p. 184). These rapid increases in flow volume and velocity along with sediment sluicing 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 Unit 2 has also been impacted by recreational activities, including OHV use and the construction of 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 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 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) (Service 2005b, p. 8). The construction of "recreational" dams degrades instream 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 are constructed 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 special management considerations or protection to address threats associated with water diversion, alteration of stream channels and watersheds, and human recreational activities.

Unit 2 was not directly impacted by the 2009 Station Fire that burned approximately 161,000 ac (64,975 ha) of lands in the San Gabriel Mountains (USFS 2009, p. 4), although indirect impacts associated with post-fire debris flow and changes to water quality may have occurred or could occur in the future. Because this particular area did not burn in the Station Fire, it was not analyzed in the U.S. Geological Survey (USGS 2009) or USFS (2009) reports; however, the burned area is directly adjacent to the West Fork of the San Gabriel River and thus may have some impact to critical habitat. For additional information on this fire and its anticipated impacts, *see* the *Unit 3: Big Tujunga Creek* section below. Please *see* Special Management Considerations or Protection section of this final rule for discussion of the threats to 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 (947 ac (384 ha)) ownership (Table 2). The purpose of this unit is to independently support a population of Santa Ana sucker in a functioning hydrologic system that provides suitable water quality and supply, and coarse sediments. One of the two subunits in Unit 3, Subunit 3B is outside of the geographic range occupied by the species at the time of listing but provides essential sources of water and sediment to the occupied subunit (3A) within the unit.

In August 2009, the Station Fire began and eventually burned approximately 161,000 ac (64,975 ha) of lands within the San Gabriel Mountains (USFS 2009, p. 4). The fire burned conifer forests, chaparral, and riparian vegetation in the stream corridors, including approximately 81 mi (130.36 km) of perennial channel and 572 mi (920.54 km) of intermittent stream beds (USFS 2009, p. 2). As a result of this fire, excessive debris flows and changes to water quality are anticipated to occur during seasonal rains over the next several years. The greatest potential for significant impacts resulting from elevated debris flows is anticipated in Big Tujunga Canyon, Pacoima Canyon, Arroyo Seco Canyon, the West Fork of the San Gabriel River, and Devil's Canyon (USFS 2009, p. 4). The estimated debris flow probability for a 3-hour duration, 1-year-reoccurence thunderstorm in the area impacted by the Station Fire indicates an 81 to 100 percent probability for impact to critical habitat in all of Unit 3 (USGS 2009, p. 9, Fig 3A). Anticipated post-fire impacts to streams within this unit include ash and debris deposition that may physically alter streambeds and pools, increased scouring of riparian and aquatic vegetation, and increased water temperature from the short-term loss of canopy shading (USFS 2009, p. 5). Changes to water quality (such as increased turbidity) are also anticipated from both post-fire impacts and from the release and mobilization of toxic chemicals such as gas, oil, and building materials as a result of burned structures and their contents (USFS 2009, p. 6). The USFS determined that the future combined impacts attributed to the Station Fire may lead to a temporary loss or reduction of suitable stream habitat and a localized risk of extirpation that may result in threatening the viability of Santa Ana sucker (USFS 2009, p. 7). Additionally, the loss of vegetation and creation of roads for firefighting may allow greater access to streambeds and facilitate increased OHV use, resulting in further habitat degradation (USGS 2009, p. 7).

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 (947 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 and contain the features essential to the conservation of the species which may require special management considerations or protection. This subunit has been heavily impacted by urban development. Threats to Santa Ana sucker and its essential features in this subunit result from impacts associated with, but not limited to: Water diversion; dams; Water quality impacts from non-point source and point source pollution (including untreated urban run-off and discharge of treated wastewater); and altered hydrology throughout the watershed (including alterations from instream barriers, construction of bridges, channelization and other flood control structures). We also recognize that special management considerations or protection will be required in this subunit to protect its essential features (*see* Special Management Considerations or Protection section above).

In addition to surveys cited in the listing rule (65 FR 19686; April 12, 2000) and in the previous designation of critical habitat for Santa Ana sucker (70 FR 425; January 4, 2005), other surveys have documented Santa Ana suckers in Big Tujunga Creek between Delta Flats and Vogel Flats (Haglund 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). There has been previous speculation that Big Tujunga Creek between the Big Tujunga Dam and Big Tujunga Canyon Road Bridge may no longer be occupied by Santa Ana sucker; however, recent surveys indicate that Santa Ana suckers are present in this area but in relatively low abundance (Haglund and Baskin 2010, pp. 17–18). 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. The upstream sections of Big Tujunga Creek are also important for providing stream and storm waters necessary to transport coarse sediments to maintain preferred substrate conditions (PCE 2) for Santa Ana sucker in occupied areas downstream.

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. Periodic high storm flows from the Big Tujunga Creek travel through the golf course into Haines Creek on an irregular basis and likely provide the only source of stream and storm waters necessary to transport coarse sediments (from Big Tujunga Creek) to maintain preferred substrate conditions (PCE 2) to the occupied portion of Haines Creek (Chambers Group 2004, p. 6–4). 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 the sole) source of stream and storm waters (PCEs 1, 4, and 7) downstream into the

Big Tujunga Wash Mitigation Bank that supports Santa Ana sucker (*see* Summary of Changes From Previously Designated Critical Habitat section above for more discussion of the area designated as critical habitat 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 coarse 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 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 coarse sediment (PCE 2) being transported downstream. During these dry periods, Santa Ana suckers are 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 Santa Ana suckers (PCE 1). 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 that serves as a connective corridor (PCE 7) within both Big Tujunga Creek and Haines Creek as they flow under the Foothill and Interstate-210 bridges is often temporarily fragmented during periods of low flow (Swift 2006a, p. 2). Hence, sufficient water flow from the upstream dam is necessary to ensure water and coarse sediment transport to maintain the stream channel substrate conditions required by 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 special 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 the 2009 proposed rule and this final 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).

The three tributaries in this Subunit 3B are not within the geographical range of the species occupied at the time of listing and are not currently occupied, but are included in this critical habitat designation because they contribute essential coarse sediments and flows to occupied habitats downstream (PCEs 1 and 2). This subunit has been impacted by urban development, although to a lesser extent than the mainstem of Big Tujunga Creek. Threats to the critical habitat designated in this subunit result from impacts associated with, but not limited to, water diversion, dams, and altered hydrology in the lower portion of the watershed. We also recognize that special management considerations or protection may be required in this subunit (*see* Special Management Considerations or Protection section above).

While we are not aware of any surveys for Santa Ana sucker conducted in Gold Canyon, Delta Canyon, or Stone Canyon Creeks, it appears that the slopes of Delta Canyon and Stone Canyon Creeks from near their confluence with Big Tujunga Creek are too steep to be passable by 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 Santa Ana sucker. Please *see* the Criteria Used To Identify Critical Habitat section of this final rule for a discussion of how we determined the slope within these creeks.

These tributaries are particularly essential for 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. These creeks are essential for the conservation of the species because they provide and transport coarse 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).

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 courts of appeals for the Fifth and Ninth Circuits 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 those physical and biological features or the ability of the PCEs to be functionally established in the area) to serve its intended conservation role for the species.

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 must ensure staff are properly trained, and both agencies are required to 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.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species 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:

1. Can be implemented in a manner consistent with the intended purpose of the action,

2. Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

3. Are economically and technologically feasible, and

4. 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 Santa Ana sucker or its designated critical habitat require section 7 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 from us under section 10 of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are subject to the section 7 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 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 those physical and biological features essential for the conservation of the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features or the area itself to an extent that appreciably reduces the conservation value of critical habitat for Santa Ana sucker. As discussed above, the role of critical habitat is to support the life-history needs of the species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, 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 affect critical habitat and therefore should result in consultation for Santa Ana sucker include, but are not limited to:

1. Actions that would alter the hydrology to a degree that appreciably reduces the value of the critical habitat for either the survival or the 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. Effects of these activities may include (but are not necessarily limited to) reducing the suitable space for individual and population growth and for normal behavior; reducing or changing sites for breeding, reproduction, and rearing (or development) of offspring; removing cover and shelter necessary for Santa Ana sucker by reducing the availability of suitable habitat for reproduction and survival; decreasing food sources; increasing water temperatures; and facilitating predation by nonnative species.

2. Actions that would significantly alter water quality to a degree that appreciably reduces the value of the critical habitat for either the survival or the 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). Effects of these activities may include (but are not necessarily limited to) reduction in the quality of the food, water, light, minerals, or other nutritional or physiological requirements necessary for Santa Ana sucker by changing the nutrient or chemical composition of the river; introduction of chemicals that may influence reproductive success; and nutrient changes that result in food source changes that are not suitable for Santa Ana sucker.

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 road construction; timber harvest; off-road vehicle use; residential, commercial, and industrial development; and various other watershed and floodplain disturbances. Effects of these activities may include (but are not necessarily limited to) reducing of the suitable space for individual and population growth and for normal behavior; reducing or changing sites for breeding, reproduction, and rearing (or development) of offspring; removing cover and shelter necessary for Santa Ana sucker by depositing fine sediment on top of the instream mosaic of substrates and scouring of instream vegetation; decreasing food sources; and increasing turbidity, resulting in unsuitable habitat conditions for Santa Ana sucker.

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. Effects of these activities may include (but are not necessarily limited to) reducing the suitable space for individual and population growth and for normal behavior; reducing or changing sites for breeding, reproduction, and rearing (or development) of offspring; reducing the quality of the food, water, light, minerals, or other nutritional or physiological requirements; removing cover and shelter necessary for Santa Ana sucker by depositing fine sediment on top of the instream mosaic of substrates and scouring of instream vegetation; decreasing food sources; increasing water temperatures; and facilitating predation by nonnative species.

5. Actions that would facilitate the introduction, spread, or augmentation of nonnative aquatic species in 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, the stocking of fish for sport or recreation, biological control, or other purposes; aquaculture; and construction and operation of canals. Effects of these activities may include (but are not necessarily limited to) reducing the suitable space for individual and population growth and for normal behavior and reducing or changing sites for breeding, reproduction, and rearing (or development) of offspring necessary for Santa Ana sucker by modifying the physical and biological elements of the habitat such that they are preferred by nonnative predators, which would increase predation risk to Santa Ana sucker.

Exemptions

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

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 within the critical habitat designation. Therefore, we are not exempting lands from this final designation of critical habitat for Santa Ana sucker under section 4(a)(3)(B)(i) of the Act. For more information regarding the exemption of Department of Defense lands, *see* the Application of Section 4(a)(3) of the Act section of the proposed rule (74 FR 65056; December 9, 2009).

Exclusions

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

In the proposed revised critical habitat rule (74 FR 65056; December 9, 2009) and document that made available the DEA (75 FR 38441; July 2, 2010), we announced that we were considering for exclusion under section 4(b)(2) of the Act lands in the Santa Ana River watershed covered by the Santa Ana sucker (SAS) Conservation Program and the Western Riverside County MSHCP. These areas include 5,471 ac (2,214 ha) covered by the SAS Conservation Program (Subunit 1B (Santa Ana River) and Subunit 1C (Lower Santa Ana River)) and 3,048 ac (1,234 ha) owned by or under the jurisdiction of the Western Riverside County MSHCP permittees (Subunit 1B (Santa Ana River) and portions of Subunit 1C (Lower Santa Ana River)). Under section 4(b)(2) of the Act, the Secretary may exercise his discretion to exclude a specific area from critical habitat designation if the determination is made that the benefits of excluding the area outweigh the benefits of inclusion. We have declined to exercise our delegated discretion to exclude any areas from final critical habitat designation. The following discussion describes our rationale.

Description of Western Riverside County Multiple Species Conservation Program (Western Riverside County MSHCP) and the Santa Ana Sucker Conservation Program (SAS Conservation Program)

The areas considered for exclusion in Subunits 1B and 1C fall either within the SAS Conservation Program or the Western Riverside County MSHCP plan areas. Some of the permittees of the Western Riverside County MSHCP are also participants in the SAS Conservation Program, which preceded the development of the Western Riverside County MSHCP. The Western Riverside County MSHCP also relies, in part, on the SAS Conservation Program to address flood control and routine maintenance operations within these subunits. Routine maintenance and operational activities in the Santa Ana River that are undertaken by permittees of the Western Riverside County MSHCP are not "covered activities" in the Western Riverside County MSHCP's plan. Because of the relationship and reliance of the Western Riverside MSHCP and SAS Conservation Program on one another and their concurrent jurisdiction over the same geographical area, we are conducting a single exclusion analysis for the area considered for exclusion in Subunits 1B and 1C.

The Western Riverside County MSHCP is a regional, multi-jurisdictional HCP with 22 participating permittees encompassing about 1.26 million ac (510,000 ha) in western Riverside County. Over the 75-year term of the permit, the permittees will implement conservation measures for 146 "covered species'," including Santa Ana sucker. For Santa Ana sucker, the Western Riverside County MSHCP specifically identifies conservation objectives to: (1) Provide long-term conservation for the species, (2) develop a management and monitoring plan for the species, and (3) mitigate for impacts to Santa Ana sucker habitat that are associated with permittee activities (Dudek and Associates, Inc. 2003, pp. 6–24, F–19–F–20; Service 2004c, p. 258) (*see* the document making available the DEA (75 FR 38441; July 2, 2010) for additional description of the Western Riverside County MSHCP). Permittees implement the above conservation measures for Santa Ana sucker over the 75-year permit term. Despite these planned conservation measures, results

from recent surveys and research efforts indicate that the status of Santa Ana sucker and its available habitat have continued to decline in the portions of the Santa Ana River covered by the plan since the plan's approval in 2004 (SMEA 2009, pp. 1–4; Thompson *et al.* 2010, pp. 321–332; *see also* Geographic Range and Status and *Rationale for Including the Western Riverside County MSHCP and SAS Conservation Program in this Final Critical Habitat Designation* sections).

The Santa Ana Sucker Conservation Program (SAS Conservation Program) was developed over a 10-year period through a multi-agency partnership of Federal, State, and local government agencies and the private sector. The Program encourages a river-wide approach to Santa Ana sucker conservation through the development and implementation of a regional maintenance program (Team 2009, p. 1–1). 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 (SAWPA 2008, pp. 13–18). To facilitate permitting for routine maintenance activities along the Santa Ana River, the current participants of the SAS Conservation Program jointly applied for a Regional General Permit from the U.S. Army Corps of Engineers (ACOE) under the Clean Water Act (33 U.S.C. 1251 *et seq.*); however, to date this permit has not been issued and consultation under section 7 of the Act to evaluate the effects of the permit on Santa Ana sucker has not been completed. The participants' unified approach to their maintenance activities aims to avoid and minimize impacts to the Santa Ana sucker and its habitat. The SAS Conservation Program has completed various conservation actions including: (1) A draft video to educate staff and contractors on Santa Ana sucker and its habitat; (2) research and studies on Santa Ana sucker distribution, movement, spawning, impacts from nonnative predators, fish health, and water quality and habitat suitability and its influence on Santa Ana sucker distribution (Saiki 2000, pp. 1–117; Swift 2001, pp. 1–94; Thompson *et al.* 2010, pp. 321–332); and (3) annual demographic monitoring since 2000.

Rationale for Including the Western Riverside County MSHCP and SAS Conservation Program in This Final Critical Habitat Designation

We analyzed the benefits of including lands covered by the Western Riverside County MSHCP and the SAS Conservation Program in the final designation and the benefits of excluding those lands from the designation. The plan and program have established valuable partnerships that are intended to implement conservation actions for Santa Ana sucker. However, in conducting our evaluation of the conservation benefits to Santa Ana sucker and its essential habitat that have resulted to date from these partnerships, we did not conclude that the benefits of excluding Subunits 1B and 1C from critical habitat outweigh the benefits of inclusion. In any case, given the conservation status of the Santa Ana sucker, we are not exercising our delegated discretion to exclude any lands under section 4(b)(2) of the Act in this final critical habitat rule.

There are significant regulatory and educational benefits to critical habitat designation in Subunits 1B and 1C (compared to no critical habitat designation). When reviewing the Western Riverside County MSHCP under section 10 of the Act, we conducted an analysis of conservation for Santa Ana sucker afforded by the plan and anticipated that (over the term of the permit) up to 443 ac (179 ha) of Santa Ana sucker habitat may be impacted within the plan area (Service 2004c, p. 260) and 3,480 ac (1,408 ha) of Santa Ana sucker habitat may be conserved (Service 2004c, p. 256). However, since the permit was issued in 2004, no essential habitat for the Santa Ana sucker has been conserved under the plan. With regard to the SAS Conservation Program, which has been in existence for over 10 years, we note that the routine operations and maintenance activities of program participants along and within the Santa Ana River and its tributaries in Subunits 1B and 1C that may adversely affect the Santa Ana sucker and its habitat were to be addressed through consultation under section 7 of the Act with the ACOE. However, while the SAS Conservation Program's partnership remains strong, formal consultation under section 7 has not yet been completed because specific conservation actions as well as the scope of routine maintenance and flood control operations and planned future activities by the participating entities have not yet been adequately defined. As a consequence, the implementation of conservation measures by SAS Conservation Program participants intended to ensure the compatibility of their activities with protection of Santa Ana sucker and its essential habitat, and additional on-the-ground conservation measures proposed to conserve the Santa Ana sucker, have not yet occurred or been fully evaluated as to their effectiveness.

In addition, a public comment received from the Riverside County Flood Control District (RCFCD 2010, p. 1) in response to the 2009 proposed revised critical habitat designation, states that there are potential projects within the Santa Ana River that are not included as "covered activities" in the Western Riverside County MSHCP nor within the list of routine maintenance and other activities in the biological assessment submitted to the Service by the SAS Conservation Program in conjunction with anticipated section 7 consultation between the Service and ACOE on the program. These potential projects include rehabilitation and future flood control projects. The projects and their potential effects have not been included in or analyzed as part of the Western Riverside County MSHCP or the SAS Conservation Program.

The principal benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure actions they fund, authorize, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, the regulatory standard of section 7(a)(2) of the Act under which consultation is completed. Federal agencies must consult with the Service on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. Federal agencies must also consult with us on actions that may affect a listed species and refrain from undertaking actions that are likely to jeopardize the continued existence of such species. The analysis of effects to critical habitat is a separate and different analysis from that of the effects to the species, and the difference in outcomes of these two analyses represents the regulatory benefit of critical habitat. For some species (including Santa Ana sucker), and in some locations, the outcome of these analyses will be similar, because effects to habitat will often also result in effects to the species. However, the regulatory standard is different, as the jeopardy analysis investigates the action's impact on the survival and recovery of the species, while the adverse modification analysis focuses on the action's effects on the designated habitat's contribution to conservation. This will, in many instances, lead to different results and different regulatory requirements. Thus, critical habitat designations may provide greater benefits to the recovery of a species than would listing alone.

We anticipate that a Federal nexus for section 7 consultation (with the ACOE under the Clean Water Act) exists for most activities in subunits 1B and 1C within the Western Riverside County MSHCP and SAS Conservation Program areas. Designation of these two subunits as critical habitat would enable us to carefully review proposed activities affecting essential Santa Ana sucker habitat along and within the Santa Ana River to ensure that it is not destroyed or adversely modified. We acknowledge that any protections provided by critical habitat that are redundant with protections already in place on lands proposed for designation would reduce the regulatory benefit of their inclusion in critical habitat. Protections provided by HCPs or other conservation and management, may prevent the destruction or adverse modification of habitat to the same or greater extent as would the consultation provisions under section 7(a) of the Act for critical habitat. We recognize that the SAS Conservation Program and Western Riverside County MSHCP are expected to provide conservation benefits to the Santa Ana sucker and its essential habitat in Subunits 1B and 1C over the long term. However, protection of essential habitat for the Santa Ana sucker in Subunits 1B and 1C is not yet in place under the SAS Conservation Program or the Western Riverside County MSHCP. Recent surveys and research indicate the status of Santa Ana sucker and the status of its habitat continue to decline throughout the Santa Ana River system (SMEA 2009, pp. 1–4; Thompson *et al.* 2010, pp. 321–332; *see also* Geographic Range and Status section. Annual population monitoring conducted since 2001 by participants of the SAS Conservation Program indicates a decreasing trend in density of Santa Ana sucker at repeatedly surveyed locations, with 2009 showing the lowest density since monitoring began (SMEA 2009, p. 2). Additionally, surveys conducted between 2006 and 2008 of available habitat for Santa Ana sucker between the La Cadena Drive Bridge crossing and I–15 (including areas that overlap with lands covered by the Western Riverside County MSHCP and SAS Conservation Program) indicate that downstream habitats are less suitable than upstream habitats near La Cadena Drive for Santa Ana sucker because of the lack of coarse substrate (*i.e.,* cobble and gravel) (Thompson *et al.* 2010, p. 321). Results of monitoring conducted by San Marino Environmental Associates (SMEA) (2009, p. 4) and Thompson *et al.* (2010, p. 321) also indicate that Santa Ana sucker are patchily distributed within the known occupied habitat areas and that this distribution varies seasonally throughout the mid- and lower-reaches of the Santa Ana River (*see also* Habitat, Geographic Range and Status, and Physical and Biological Features sections of the 2009 proposed revised rule and this final rule). Because protection of essential habitat for Santa Ana sucker is not yet in place under the Western Riverside MSHCP or under the SAS Conservation Plan, and we expect a Federal nexus for most activities affecting essential Santa Ana sucker habitat in Subunits 1B and 1C, we believe designation of these subunits will provide a significant regulatory benefit for the Santa Ana sucker.

Designating critical habitat also can be beneficial because the process of proposing critical habitat provides the opportunity for peer review and public comment on areas we propose to designate as critical habitat, our criteria to assess those lands, potential impacts from the proposal, and information on the taxon itself. We believe the designation of critical habitat may generally provide previously unavailable information to the public. Public education regarding the potential conservation value of an area may also help focus conservation and management efforts on areas of high conservation value for certain species. Information about the Santa Ana sucker and its habitat that reaches a wide audience, including parties concerned about and engaged in conservation activities, is valuable because the public may not be aware of Santa Ana sucker occurrences that have not been conserved or are not being managed.

We acknowledge that educational information regarding the importance of the Santa Ana sucker has been presented to the public through development and implementation of the Western Riverside County MSHCP. However, this critical habitat rule provides more specific information regarding essential habitat for Santa Ana sucker in Subunits 1B and 1C and can focus future conservation efforts under the plan as well as future conservation efforts under the SAS Conservation Program on protection of these areas. As stated above, there appear to be potential projects planned in the Santa Ana River that were not previously anticipated or evaluated as part of the Western Riverside County MSHCP (RCFCD 2010, p. 1) and have not been identified in the SAS Conservation Program that have the potential to adversely impact essential habitat where Santa Ana sucker occurs. These future projects may reflect a lack of public awareness regarding the commitments outlined in the Western Riverside MSHCP (Dudek and Associates, Inc. 2003, pp. 6–24, F–19–20) and evaluated in the associated biological opinion (Service 2004c, p. 258). We have also received reports of unauthorized OHV use in the Santa Ana River in areas under the jurisdiction of the Western Riverside County MSHCP (Beehler 2010, pers. comm.) that we have determined to be essential to the conservation of Santa Ana sucker. From the extent of the usage, it appears that local law enforcement may not be aware of the potential impacts to this area. We believe that including areas in this Santa Ana sucker final critical habitat designation where these non-covered or unauthorized activities are currently taking place or may occur will provide valuable information to the permittees, local jurisdictions, SAS Conservation Program participants, and the general public regarding the importance of protecting the physical and biological features essential to the conservation of Santa Ana sucker in Subunits 1B and 1C. We consider this a significant educational benefit of designating these areas.

The designation of critical habitat will provide significant regulatory and educational benefits that we believe will complement the conservation and recovery actions expected under the Western Riverside County MSHP and SAS Conservation Program. Designating critical habitat throughout the Santa Ana River in Subunits 1B and 1C will ensure: (1) An impact analysis for projects with a Federal nexus (through both a jeopardy analysis directed specifically at Santa Ana sucker and an adverse modification analysis directed specifically at designated critical habitat) is conducted; and (2) information will be provided to the local jurisdictions and the general public regarding the dynamic nature of the system, including the effects of hydrological alterations and modifications that influence the transport of water and coarse substrates (*see* Physical and Biological Features and Criteria Used To Identify Critical Habitat sections for detailed discussion), and the importance of the physical and biological features essential to the conservation of Santa Ana sucker.

The designation of Santa Ana sucker critical habitat may also strengthen or reinforce some of the provisions in other State and Federal laws, such as the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA). These laws analyze the potential for projects to significantly affect the environment. In Riverside

County, the additional protections associated with critical habitat may be beneficial in areas not currently conserved. Critical habitat may signal the presence of sensitive habitat that could otherwise be missed in the review process for these other environmental laws. In the case of CEQA, this could be of benefit, since CEQA may require additional review of projects that may affect critical habitat and protection of essential habitat if its destruction would constitute a significant environmental effect. The benefit would likely be minor in the case of NEPA, because NEPA does not require project proponents to protect sensitive habitat. We believe there would be some ancillary benefits under other laws of critical habitat designation in Subunits 1B and 1C because the species and its essential habitat are not currently conserved in these areas.

Although there are significant regulatory and educational benefits and additional ancillary benefits of including Subunits 1B and 1C in critical habitat, there are also significant partnership benefits that would result from exclusion of these lands. As discussed in detail in the proposed revised critical habitat designation (74 FR 65056; December 9, 2009) and document making available the DEA (75 FR 38441; July 2, 2010), because many landowners, local jurisdictions, and others view designation of their lands as critical habitat unfavorably, the exclusion of essential habitat areas covered by the Western Riverside MSHCP and SAS Conservation Program would help to maintain and strengthen our partnerships with plan participants and also encourage new voluntary partnerships that could benefit Santa Ana sucker. The maintenance of existing partnerships and the creation of new partnerships to conserve the Santa Ana sucker constitutes a significant benefit of exclusion of Subunits 1B and 1C from designation.

We recognize and appreciate the partnerships we have established through development and continued implementation of the Western Riverside MSHCP and SAS Conservation Program. However, the ultimate value of excluding lands from critical habitat in order to maintain existing and encourage future partnerships is the conservation for listed species and their habitat derived from such partnerships. While we acknowledge that measures to conserve Santa Ana sucker under the Western Riverside MSHCP are to be implemented over the life of the plan, to date, no habitat lands have been conserved. Existing unauthorized uses (OHV use) are occurring within essential habitat, and future activities that are not covered by the plan are contemplated that could adversely affect the Santa Ana sucker and its essential habitat. With regard to the SAS Conservation Program, section 7 consultation under the Act to evaluate routine maintenance and other operations and future projects in the Santa Ana River planned by program participants has not yet been completed, and on-the-ground conservation actions anticipated under the program have yet to be put into place. We also believe that additional measures directed at the protection of the physical and biological features essential to the conservation of the species that are not directly addressed by either the Western Riverside County MSHCP or the SAS Conservation Program may be needed to ensure that the species will persist and recover within the Santa Ana River.

In light of these circumstances, coupled with the current declining status of the species and its habitat in the Santa Ana River, we have not concluded that the partnership benefits of excluding Subunits 1B and 1C outweigh the regulatory and educational benefits afforded under section 7 of the Act as a consequence of designating critical habitat in these areas (as future projects are analyzed on a project-by-project basis).

Summary of Rationale for Including Areas Covered by the Western Riverside County MSHCP and SAS Conservation Program in This Final Critical Habitat Designation

Although conservation measures from the Western Riverside County MSHCP and SAS Conservation Program are expected to benefit the Santa Ana sucker and its habitat, we believe the critical habitat designation will assist in achieving additional conservation not currently provided under the plan or program. Under most circumstances, a Federal nexus is expected (most likely with ACOE) for projects occurring within the boundary of the final revised critical habitat designation. The presence of a Federal nexus provides an opportunity for an additional regulatory review under section 7 of the Act that focuses on the specific physical and biological features and habitat essential for the conservation of the species. While we believe that the benefits of excluding lands from critical habitat designation may outweigh any regulatory and educational benefits of inclusion when the lands are already managed and conserved in perpetuity for the benefit of a listed species, neither the Western Riverside County MSHCP nor the SAS Conservation Program have established any conserved areas for the benefit of the Santa Ana sucker, and activities under the SAS Conservation Program are not currently managed to benefit the Santa Ana sucker and its habitat.

Because on-the-ground management and conservation measures for the Santa Ana sucker are not yet in place and the status of the species and its habitat have continued to decline, the benefits afforded by the critical habitat designation are not redundant with existing protections afforded by the listing of the species or under the Western Riverside County MSHCP or the SAS Conservation Program. We recognize that significant benefits would be realized by forgoing designation of critical habitat within the jurisdiction of the Western Riverside County MSHCP and SAS Conservation Program, including encouragement of continued collaboration and cooperation with stakeholders and partners, and encouragement of the development of additional HCPs and other conservation plans in the future that contribute to the recovery of federally listed species (benefits of exclusion). However, in reviewing the specific circumstances of Santa Ana sucker, we have not concluded that the partnership benefits of excluding Subunits 1B and 1C outweigh the regulatory and educational benefits afforded under section 7 of the Act as a consequence of designating critical habitat in these areas. In any case, given the conservation status of the Santa Ana sucker, we did not exercise our delegated discretion to exclude lands within Subunits 1B and 1C that are covered by the Western Riverside County MSHCP or within the jurisdiction of the SAS Conservation Program. Our determination not to exercise our delegated discretion to exclude Subunits 1B and 1C from critical habitat designation under section 4(b)(2) of the Act is committed to agency discretion by law and is not reviewable (*see Home Builders Ass'n of N. Cal.* v. *U.S. Fish & Wildlife Serv.,* 2006 U.S. Dist. LEXIS 80255 at *66 (E.D. Cal. Nov. 2, 2006); *Cape Hatteras Access Preservation Alliance et al.* v. *U.S. Dept. of the Interior,* 2010 U.S. Dist. LEXIS 84515 ** 36–38 (D.D.C. August 17, 2010)).

Economic Analysis

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. Following publication of the proposed critical habitat designation, we conducted an economic analysis to estimate the potential economic effect of

the designation. The DEA (dated June 8, 2010) was made available for public review and comment from July 2, 2010, to August 2, 2010 (75 FR 38441). Substantive comments and information received on the DEA are summarized in the Summary of Comments and Recommendations section below and are incorporated into the final analysis, as appropriate. Taking any relevant new information into consideration, the Service completed a final economic analysis (FEA) (Industrial Economics, Incorporated (IEC) 2010b) of the critical habitat designation that updates the DEA by removing impacts that were not considered probable or likely to occur and appropriately adjusts impacts in response to additional information.

In the July 2, 2010, **Federal Register** notice for reopening the comment period for proposed rule and noticing the availability of the DEA (75 FR 38441) for Santa Ana sucker, there were several errors associated with potential economic costs associated with the DEA. We have subsequently developed a FEA and correctly identified potential economic impacts of the final critical habitat designation

The intent of the final economic analysis (FEA) is to quantify the economic impacts of all potential conservation efforts for Santa Ana sucker; some of these costs will likely be incurred regardless of whether we designate critical habitat (baseline). The economic impact of the final critical habitat designation is analyzed by comparing scenarios both "with critical habitat" and "without critical habitat." The "without critical habitat" scenario represents the baseline for the analysis, considering protections already in place for the species (*e.g.,* under the Federal listing and other Federal, State, and local regulations). The baseline, therefore, represents the costs incurred regardless of whether critical habitat is designated. The "with critical habitat" scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts are those not expected to occur absent the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat above and beyond the baseline costs; these are the costs we consider in the final designation of critical habitat. The economic analysis uses the historical record to inform its assessment of potential future impacts of critical habitat and forecasts both baseline and incremental impacts likely to occur during the 20 year period following the designation of critical habitat. This period was determined to be the appropriate period for analysis because limited planning information was available for most activities to forecast activity levels for projects beyond a 20-year timeframe. However, for water management activities we used a 25-year time frame because water planning is conducted on a 25-year scale (IEC 2010b, p. ES–5).

The FEA addresses how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on government agencies, private businesses, and individuals. The FEA also measures lost economic efficiency associated with residential and commercial development and public projects and activities, such as economic impacts on water management and transportation projects, Federal lands, small entities, and the energy industry. Decision-makers can use this information to assess whether the effects of the designation might unduly burden a particular group or economic sector.

The primary purpose of the economic analysis is to estimate the potential incremental economic impacts associated with the designation of critical habitat for Santa Ana sucker. This information is intended to assist the Service in considering whether to exercise our delegated discretion to exclude any particular areas from critical habitat designation under section 4(b)(2) of the Act.

Conservation efforts related to water management constitute the majority of total incremental costs (more than 99 percent) in areas of revised critical habitat. Transportation projects, residential and commercial development, and projected administrative costs make up the remaining incremental impacts (IEC 2010b, p. ES–2). The total future incremental impacts are estimated to be $22.3 to $702 million ($1.8 to $56.3 million annualized) in present value terms using a 7 percent discount rate over the next 20 years (2011 to 2030) in areas proposed as revised critical habitat (IEC 2010b, p. ES–5).

Exhibit 3–1 of the FEA presents the estimated incremental costs to water management activities expected from the critical habitat designation (IEC 2010b, pp. 3–3—3–4). These costs are estimated using two scenarios, a High End Scenario and a Low End Scenario. Under the Low End Scenario, costs comprise anticipated conservation efforts for the species, including anticipated biological monitoring and survey costs, as well as other species protection efforts. These costs are attributed primarily to Subunit 1A, which is not considered to be currently occupied by Santa Ana sucker. The analysis also calculates a High End Scenario, which recognizes that there is some potential for critical habitat to result in a need for water management agencies to divert less water than currently used or planned to be used. Under this scenario, the analysis quantifies the value of water potentially made inaccessible by conservation requirements for Santa Ana sucker critical habitat designation. The majority of costs for both scenarios are associated with two proposed projects within the unoccupied Subunit 1A (Supplemental Water Supply Project at Seven Oaks Dam and the San Bernardino Municipal Water Department Water Factory Project). The substantial incremental costs within Subunit 1A are attributed to conservations efforts related to water management activities, particularly the replacement of water supplies that may be affected by the designation of critical habitat IEC 2010, p. ES–2). We believe the economic impact or incremental cost attributed to Subunit 1A in the FEA is likely inflated for two reasons:

First, many of the future projects the FEA assumes will be affected by the designation of Subunit 1A would affect Santa Ana sucker and its habitat downstream in the currently occupied range of the Santa Ana River watershed (Subunits 1B and 1C) whether Subunit 1A is designated as critical habitat or not. The area covered by Subunit 1A is a primary source of coarse sediment in the upper Santa Ana River watershed, is a part of the Santa Ana River hydrologic system, and assists in maintaining water quality and temperature to downstream occupied reaches of the Santa Ana River. Because this area is essential to maintain the Santa Ana sucker downstream in the Santa Ana River watershed, it is very likely that the projects cited in the FEA would be determined to "affect" Santa Ana sucker downstream triggering a duty to consult under section 7 of the Act and that modifications or restrictions on the projects would be necessary (1) to avoid jeopardy to Santa Ana sucker, and (2) to minimize take of Santa Ana sucker regardless of whether critical habitat is designated in Subunit 1A. Therefore, we believe that the incremental cost reported by the FEA and attributed to Subunit 1A substantially overstates the actual cost associated with the critical habitat designation of this Subunit. Regardless of the designation of critical

habitat in Subunit 1A, projects (in Subunit 1A) could incur costs as a result of the duty to avoid jeopardy to Santa Ana sucker or adverse modification of Santa Ana sucker's critical habitat in Subunits 1B and 1C in future section 7 consultations. These downstream occupied areas (Subunit 1B and 1C) would be considered part of the action area for projects that occur in Subunit 1A because activities in Subunit 1A are likely to affect Santa Ana sucker and the hydrologic system downstream. Thus, even absent critical habitat designation in Subunit 1A, some of the costs attributable to the section 7 consultation for a project in Subunit 1A (which are reported as incremental by the FEA) are more accurately attributed to Subunits 1B and 1C either as baseline costs resulting from the duty to comply with the jeopardy standard of section 7(a)(2) of the Act or as incremental costs resulting from the separate section 7(a)(2) duty to avoid adverse modification of critical habitat designated in these Subunits.

Second, although the High End Scenario for incremental costs reported in the DEA and FEA assumes that rights to water in Subunit 1A will be completely eliminated as a result of the critical habitat designation, we anticipate that some portion of the water diversions proposed or currently occurring can be accommodated consistent with the conservation measures necessary for Santa Ana sucker. As a part of the section 7 consultation procedure under the Act, for projects that would likely jeopardize a listed species or adversely modify designated critical habitat of a listed species, we usually are able to identify reasonable and prudent alternatives to avoid these outcomes. In our experience it is highly unlikely that Federal projects would be halted completely as a result of the critical habitat designation.

In the case of Santa Ana sucker in the Santa Ana River, a single, integrated water system (including the area delineated by Subunit 1A and the processes it provides) is essential for the conservation of the species. Any future impact to the Santa Ana River watershed that may divert water supplies from the river or impact delivery of water or coarse sediments downstream would likely require section 7 consultation under the Act whether or not Subunit 1A is designated, because those activities would affect habitat conditions downstream that support Santa Ana sucker in occupied Subunits 1B and 1C. We also believe it is unlikely that future consultations involving Subunit 1A would preclude future water-related projects in this area. Therefore we believe that a significant portion of the costs identified as incremental to the designation of Subunit 1A would occur even in the absence of designation of the area as critical habitat and that such costs are overstated because they assume no development would occur in the area.

Even assuming that substantial economic and other impacts will result from designation of Subunit 1A as discussed in the FEA and in comments submitted on the proposed rule and DEA, given the conservation status of the Santa Ana sucker, we did not exclude this area from critical habitat designation under section 4(b)(2) of the Act. As discussed earlier in the Critical Habitat Units Subunit 1A: Upper Santa Ana River section, this subunit is essential for the conservation of the species because it provides for essential processes, such as the transport of stream and storm waters that deliver coarse sediments necessary to maintain the habitat conditions essential to the survival and the recovery of the population of Santa Ana sucker downstream, which is one of only three extant populations in the three watersheds where the species naturally occurs.

The FEA described above determined the baseline and incremental impacts of Santa Ana sucker critical habitat based on the 2009 proposed critical habitat designation (74 FR 65056, December 9, 2009) and the document that made available the DEA (75 FR 38441, July 2, 2010). As described above we have removed from the final critical habitat designation the areas of Plunge Creek and the Santa Ana River above Seven Oaks Dam (*see* Critical Habitat Units—Subunit 1A: Upper Santa Ana River section above). In light of the removal of these areas from the designation, we re-calculated the economic analysis to accurately represent the areas that are included in this final critical habitat designation. The memorandum to the FEA estimates that removal of the areas results in a decrease in incremental costs of $8.03 to $251 million, or $648,000 to $20.1 million on an annualized basis, in present value terms using a 7 percent discount rate (IEC 2010c, pp. 3–4). These costs consist of changes to water supply, development, and administrative impacts. The total future incremental costs in areas designated as revised critical habitat are estimated to be $14.3 to $450 million ($1.18 to $36.2 million annualized) in present value terms using a 7 percent discount rate (IEC 2010c, pp. 3–4). As discussed above, we believe that a significant portion of these costs would occur in the absence of designation of critical habitat and thus are more appropriately considered baseline costs and that the costs are overstated because the analysis assumes no development would occur in Subunit 1A.

After consideration of the impacts under section 4(b)(2) of the Act, we did not exercise our delegated discretion to exclude any areas from the final critical habitat designation based on the economic impacts. Our determination not to exercise our delegated discretion to exclude any areas from critical habitat designation under section 4(b)(2) of the Act is committed to agency discretion by law and is not reviewable (*see Home Builders Ass'n of N. Cal.* v. *U.S. Fish & Wildlife Serv.,* 2006 U.S. Dist. LEXIS 80255 at *66 (E.D. Cal. Nov. 2, 2006); *Cape Hatteras Access Preservation Alliance et al.* v. *U.S. Dept. of the Interior,* 2010 U.S. Dist. LEXIS 84515 ** 36–38 (D.D.C. August 17, 2010)).

The final economic analysis and memorandum to the FEA is available at *http://www.regulations.gov* or upon request from the Carlsbad Fish and Wildlife Office (*see* **ADDRESSES** section).

Summary of Comments and Recommendations

We requested written comments from the public on the proposed designation of critical habitat for Santa Ana sucker during two comment periods. The first comment period, associated with the publication of the proposed rule (74 FR 65056; December 9, 2009), opened on December 9, 2009, and closed on February 8, 2010. We also requested comments on the proposed critical habitat designation and associated DEA during a comment period that opened July 2, 2010, and closed on August 2, 2010 (75 FR 38441; July 2, 2010). Two public hearings were conducted on July 21, 2010, in Corona, California. All verbal and written comments from these hearings have been incorporated into our response to comments below. We also contacted appropriate Federal, State, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed rule and DEA during these comment periods. All substantive information provided during comment periods has either been incorporated directly into this final determination or addressed below.

Congressional Inquiries

We received six congressional inquiries regarding the designation of critical habitat for Santa Ana sucker. These congressional parties requested

that we consider all economic impacts attributed to the designation of critical habitat. Our final economic analysis addresses information that was submitted and identifies the economic impacts attributed to the designation of critical habitat. The FEA and memorandum to the FEA are available for public review at *http://www.regulations.gov.*

Peer Review

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from five knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles pertinent to the species. We received responses from three of the peer reviewers.

We reviewed all comments received from the peer reviewers for substantive issues and new information regarding critical habitat for Santa Ana sucker. The peer reviewers generally concurred with our methods and conclusions and provided additional information, clarifications, and suggestions that we incorporated into the rule to improve this final critical habitat designation. All comments are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Reviewer Comments

Comment 1: Two peer reviewers were supportive of the proposed revised critical habitat rule. They believe the rule was well supported by publications in scientific literature, corresponded with data from species and area experts, and included scientifically sound assumptions and analyses. They also stated the proposed revised critical habitat rule did a thorough and accurate job of delineating areas most important for recovery of Santa Ana sucker.

Our Response: We appreciate the peer reviewers' critical review. We considered all new information received during the comment periods with equal thoroughness and accuracy, and anticipate an improved and equally high quality final revised critical habitat designation.

Comment 2: One peer reviewer concurred with our analysis of the primary threats to Santa Ana sucker and description of the PCEs.

Our Response: We appreciate the peer reviewer's critical review.

Comment 3: Two peer reviewers concurred with our decision not to list the Santa Clara River population of Santa Ana sucker, while a third peer reviewer stated the Santa Clara River population should be discussed further. The third peer reviewer stated that although the downstream population may hybridize with Owens sucker, there is an area upstream protected from genetic exchange with Owens suckers. Additionally, the third peer reviewer stated there is no evidence of Santa Ana sucker introduction into the Santa Clara River; it is only an absence in early collections that leads to the conclusion of introduction. Although not specifically stated, the third peer reviewer seemed to imply they believed the upstream area should have been proposed as critical habitat.

Our Response: We appreciate all three of the peer reviewers' critical reviews and concern for conservation of a genetically pure Santa Ana sucker population. More information on the Santa Clara River population of Santa Ana sucker can be found in the 2000 listing rule (65 FR 19686; April 12, 2000) and the proposed revised critical habitat designation (74 FR 65056; December 9, 2009). Our decision to not list the Santa Clara River population of Santa Ana sucker was made in the 2000 listing rule (65 FR 19686; April 12, 2000) and reiterated again in the 2009 proposed revised critical habitat designation (74 FR 65056; December 9, 2009). We considered all areas potentially occupied by populations of Santa Ana sucker for proposal as revised critical habitat. Moyle (2002) and Chabot *et al.* (2009) have documented hybridization of Santa Ana suckers with Owens suckers in the Santa Clara River watershed. While we agree there is no documentation that Santa Ana suckers were introduced to the Santa Clara River (Service 2000, p. 19687), the information in our files indicates populations in this area are not genetically pure (*see* Geographic Range and Status section above). We do not agree that there is an upstream area in the Santa Clara River protected from genetic exchange with Owens suckers; the dry gap in the upper watershed is not a permanent barrier to dispersal. Therefore, we determined that the Santa Clara River population is not part of the taxonomic entity listed under the Act and did not designate areas in this river as revised critical habitat. For more information on this subject, *see* the 2000 listing rule (65 FR 19686; April 12, 2000), the proposed revised critical habitat (74 FR 65056; December 9, 2009), and the Background section of this rule above.

Comment 4: One peer reviewer concurred with our inclusion of City and Mill Creek in Subunit 1A as a source of gravel, cobble, and seasonal flows. The peer reviewer agrees that these substrates have decreased after the construction of Seven Oaks Dam in the upper Santa Ana River.

Our Response: We agree with the peer reviewer. Historically, the upper Santa Ana River above Seven Oaks Dam was a principle contributor of coarse sediments to the lower portions of the Santa Ana River (Humphrey *et al.* 2004, p. 3). However, since the construction of the Seven Oaks Dam in the upper Santa Ana River, the amount of coarse sediment contribution attributed to this reach has declined. Tributaries (*i.e.,* City Creek, Mill Creek, and Plunge Creek) in the upper watershed that feed into the Santa Ana River below the Seven Oaks Dam now contribute a majority of the coarse sediment to the lower reaches of the Santa Ana River (Humphrey *et al.* 2004, pp. 1–8). Studies indicate approximately 4,000 cubic feet per second (cfs) of water flow is necessary to carry gravel and cobble (Humphrey *et al.* 2004, p. 7). The USGS hydrologic flow data indicate that flows in both City and Mill Creek are sufficient to carry gravel and cobble downstream to the Santa Ana River. The USGS streamflow gauges located in the mainstem of the Santa Ana River (at the E Street crossing in San Bernardino and at the Metropolitan Water District crossing in Riverside) show peak flows above the critical water velocity necessary to carry gravel and cobbles. This indicates that gravel and cobbles that are available from the upper tributaries are transported to the currently occupied middle and lower reaches of the Santa Ana River. Because the delivery of suitable coarse sediments (cobble and gravel) is essential to the survival and recovery of Santa Ana sucker, we designate City and Mill Creek as final revised critical habitat in this rule.

Comment 5: Two peer reviewers concurred that the rationale for selecting City Creek and Santa Ana River above Seven Oaks Dam for reintroduction was sound; however, they expressed concerns regarding the management actions required to address existing barrier impacts and the potential success of Santa Ana sucker reintroduction. They stated that the habitat appears suitable; however, the one documented historical Santa Ana Sucker record in City Creek may indicate marginal success of the species at this location in the past. They believe further consideration is necessary before any reintroduction effort begins to determine suitability for Santa Ana suckers.

Our Response: We agree there are relatively few historical Santa Ana sucker records in City Creek and the

upper watershed of the Santa Ana River. To our knowledge, the study conducted by the Orange County Water District (OCWD 2009) provides the most recent and comprehensive reconnaissance data available. This study was conducted specifically to determine the most suitable habitats for Santa Ana sucker reintroduction. The study qualitatively evaluated habitat suitability and threat presence at each location, ranked each location (OCWD 2009, p. 6–2), and recommended the areas most likely to support viable populations (OCWD 2009, pp. 6–5–6–6). In this final critical habitat designation, we are not including as critical habitat areas that were previously identified solely for reintroduction purposes (74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that these areas are not essential because we lack information indicating that the areas were historically occupied by the species and lack sufficient information to support a determination that the areas are needed for the species' recovery. In particular, we lack supporting information regarding the feasibility of introducing the sucker at either location (such as water quality conditions, reliability of water flows, and presence of predatory and competing species). However, we plan to initiate development of a draft recovery plan in 2011, which may include the establishment of a recovery team that would seek the involvement of species experts, habitat experts, and stakeholders. We anticipate this recovery effort would evaluate the need for reintroduction and, if needed, evaluate these areas and other sites within the historical range of the species for potential recovery efforts.

Comment 6: Two peer reviewers expressed concern regarding the Santa Ana sucker population in Subunit 1B. They stated tertiary-treated water discharge is the primary source of water in this reach of the Santa Ana River and they believe this may impact Santa Ana sucker. They cited Jenkins *et al.*'s (2009) study evaluating the impact of estrogen-disrupting compounds (EDCs) on reproductive performance of male western mosquitofish (*Gambusia affinis*) as evidence that additional species-specific studies, including monitoring and EDCs, should be conducted to determine effects on Santa Ana sucker.

Our Response: We agree with the peer reviewer that tertiary-treated wastewater discharge is the primary source of water in this reach of the Santa Ana River especially during dry periods of the year. Therefore, the quantity and the quality of the water are important in this subunit. We agree that understanding and preventing potential negative effects of EDCs in tertiary-treated water on Santa Ana suckers is a priority. We were a cooperator and funded portions of the study referred to by the peer reviewer (Jenkins *et al.* 2009). This study indicates that presence of EDCs result in impaired reproductive and endocrine function in western mosquitofish (*Gambusia* spp.), and could present a threat to Santa Ana suckers that inhabit the same waters (Service 2008, pp. 1–3; Jenkins *et al.* 2009, pp. 1–40; Service unpublished information 2010b, p. 24). Therefore, we believe that the threat of EDCs to Santa Ana sucker may have long-lasting impacts to the species and warrants further study (Service unpublished information 2010b, p. 24). Conventional pollutants may be a concern as well, and we are working with the USGS and others to further evaluate the contaminant sensitivity of Santa Ana sucker (Service 2008, p. 2). We will use results from these environmental contaminants investigations to work with the discharger, California Regional Water Quality Control Board, and the U.S. Environmental Protection Agency to prevent adverse impacts to water quality where Santa Ana suckers are present.

In March 2007, the Service launched an initiative focused on the environmental and public health impacts of improper disposal of unused medications. We partnered with the American Pharmacists Association and the Pharmaceutical Research and Manufacturers of America to launch this special campaign, SMARxT Disposal, to inform people of ways to dispose of unwanted and unused medications in a safe and environmentally protective manner. This is one of many actions that could be taken to help address EDCs in tertiary-treated water. The nationwide campaign to educate the public regarding the threat posed by dissolved medication to all fish and wildlife, including Santa Ana sucker, is one action contributing to fish and wildlife species' conservation.

Comment 7: One peer reviewer stated that the section 4(b)(2) exclusion being considered by the Secretary based on the SAS Conservation Program in Subunits 1B and 1C was appropriate if the participating parties maintain a high level of commitment to preservation and enhancement of Santa Ana sucker and its habitat.

Our Response: We appreciate the peer reviewer's analysis. We considered the relative benefits of including and excluding from critical habitat areas in Subunits 1B and 1C that are covered by the SAS Conservation Program (*see* Rationale For Including the Western Riverside County MSHCP and SAS Conservation Program in This Final Critical Habitat Designation section for a complete discussion of this determination). We did not conclude that the benefits of excluding these lands outweigh the benefits of their designation. Our determination not to exercise our delegated discretion to exclude Subunits 1B and 1C from critical habitat designation under section 4(b)(2) of the Act is committed to agency discretion by law and is not reviewable (*see Home Builders Ass'n of N. Cal.* v. *U.S. Fish & Wildlife Serv.,* 2006 U.S. Dist. LEXIS 80255 at *66 (E.D. Cal. Nov. 2, 2006); *Cape Hatteras Access Preservation Alliance et al.* v. *U.S. Dept. of the Interior,* 2010 U.S. Dist. LEXIS 84515 ** 36–38 (D.D.C. August 17, 2010)). We recognize and appreciate the commitment of our partners in the SAR Conservation Program. We believe all partnerships are valuable and will continue to work with the participants of the SAS Conservation Program to meet the needs of the species and all stakeholders.

Comment 8: One peer reviewer expressed general agreement with our proposed revised critical habitat designation. In particular they were supportive of the inclusion of Subunit 1A.

Our Response: We appreciate the peer reviewer's critical review.

Comment 9: One peer reviewer stated that reintroduction of Santa Ana sucker above Seven Oaks Dam would be appropriate even though brown trout (*Salmo trutta*), a possible predator, is known to occur in the area. They stated other species of suckers are known to co-occur with this predator; therefore, Santa Ana suckers should also be able to co-exist with brown trout. The peer reviewer stated this action to reintroduce the species should increase the species' range and contribute to its recovery.

Our Response: We appreciate the peer reviewer's critical review and agree that brown trout presence does not preclude successful Santa Ana sucker reintroduction to unoccupied habitat. In this final critical habitat designation, we are not including as critical habitat areas that were previously identified solely for reintroduction purposes (74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that these areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. *See* response to Comment 5 above and Summary of Changes From

2009 Proposed Critical Habitat to This Final Critical Habitat Designation section.

Comment 10: Two peer reviewers expressed support for including tributaries in the Santa Ana sucker critical habitat designation. They believe tributaries add habitat heterogeneity, provide refuge for young-of-year, and provide important areas for fish survival and reproduction because the floodplain of the mainstem may change through time (thus providing additional suitable habitat outside the mainstem of the river for Santa Ana suckers).

Our Response: We appreciate the peer reviewers' critical review and agree that tributaries are important for species' survival and recovery. We included tributaries of the Santa Ana River, San Gabriel River, and Big Tujunga Wash in this final revised critical habitat designation. These tributaries contain the physical and biological features essential to the conservation of the species. Additionally, some tributaries were also designated because they assist in providing coarse substrates (sand, gravel, cobbles) for maintenance of habitat for Santa Ana sucker (*see* Critical Habitat Units section above).

Comment 11: One peer reviewer concurred with the designation of the Santa Ana River and uninhabited tributaries of the San Gabriel and Big Tujunga areas as critical habitat because these areas contribute coarse sediments (gravel and cobbles) to the river and there is a correlation between the availability of coarse sediments and Santa Ana sucker abundance.

Our Response: We appreciate the peer reviewer's critical review and agree that transport coarse sediment is an essential habitat component of Santa Ana sucker population survival and recovery (*see* Background and Physical and Biological Features sections above).

Comment 12: One peer reviewer provided multiple examples of Santa Ana sucker abundance near tributaries and associated this with the addition of colder water to the mainstem of both the Santa Ana and San Gabriel Rivers. The reviewer also stated lower temperatures observed in the San Gabriel River contribute to the better condition of Santa Ana suckers within that watershed and decreased water temperatures should improve the condition of Santa Ana suckers in other portions of the species' range.

Our Response: We appreciate the peer reviewer's critical review and agree that lower temperatures increase Santa Ana sucker habitat suitability and may contribute to better condition as well (*see* Background and Physical and Biological Features section).

Comment 13: One peer reviewer critiqued three of our PCE definitions. First, the reviewer stated flow peaks and ebbs, whether natural or regulated, are not only generally important, but should mimic the variability of the natural hydrograph that occurs throughout the year. The reviewer also noted that Santa Ana sucker life stages are closely tied to these differences in flow regime during the year. Second, the peer reviewer stated that water depths in the range of 1.6 ft (0.5 m) to 5 ft (1.5 m) are important; stream areas deeper than this are rare, not typical of Santa Ana sucker habitat, and almost always a result of a created pool below drop structures or outfalls. Third, the peer reviewer stated that water temperatures below 86 °F (30 °C) are good, but they believe temperatures need to mimic natural temperatures so that Santa Ana sucker's physiological response is appropriate to favor survival.

Our Response: We understand the peer reviewer's emphasis on the importance of restoring habitat conditions to which the species is best adapted. The PCEs identified for Santa Ana sucker are not temporally or seasonally based; however, the PCEs incorporate and encompass the fluctuation that the peer reviewer describes as a result of seasonal flows. Under the Act and its implementing regulations, we are required to identify the physical and biological features within the geographical area occupied by 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 designating critical habitat in areas within the geographical area that was occupied by the species at the time of listing that continue to be occupied today, and that contain the PCEs in the quantity and spatial arrangement to support life-history functions essential to the conservation of the species. We are also designating areas outside the geographical area occupied by the species at the time of listing that are not occupied but are essential for the conservation of the species (*see* Primary Constituent Elements for the Santa Ana Sucker section above).

Modification of suitable habitat and water availability has changed the flow regime in all watersheds occupied by Santa Ana suckers to some degree (*see* Critical Habitat Units section above). We agree that survival and recovery of Santa Ana sucker will require management of PCEs, in some cases to mimic historical conditions. However, PCEs describe essential, not historical or ideal, physical and biological features. Furthermore, to redefine PCEs to describe historical or ideal parameters would mean there would be no suitable habitats within the range of the species that currently contain PCEs. Therefore, based on our understanding of the PCEs and the other peer reviewers' support of the proposed PCEs, we have not revised the PCEs in this final rule to reflect the comments of this peer reviewer.

Comment 14: One peer reviewer stated that the following tributaries of the Santa Ana River should also be listed as occupied at the time of listing: Arroyo Tesquesquite, Sunnyslope Creek, Anza Park Drain, and the lower outlet of Hidden Valley Drain.

Our Response: The final listing rule states that protections are afforded to Santa Ana sucker by the Act in the Los Angeles, San Gabriel, and Santa Ana River drainages (65 FR 19686; April 12, 2000). The tributaries identified are within the Los Angeles, San Gabriel, and Santa Ana River drainages and considered occupied at the time of listing. Additionally, the listing rule states that the above-mentioned tributaries were used for spawning and nurseries (65 FR 19686; April 12, 2000), and are therefore considered part of the listed entity and considered currently occupied (*see* the Critical Habitat Units—Subunit 1B: Santa Ana River section above).

Comment 15: One peer reviewer stated that critical habitat designation in Haines Creek should be limited to the portion below Interstate 210 and downstream of the mitigation site where two ponds were created.

Our Response: The portion of Haines Creek above Interstate 210 was designated as revised critical habitat to capture necessary stream system connectivity, even if it is periodically dry (PCE 7). Moreover, this area likely provides the only source of stream and storm waters necessary to transport the coarse sediments that maintain preferred substrate conditions (PCE 2) in the Big Tujunga Wash Mitigation Bank downstream (Service 2009, p. 65073; Swift 2009, p. 1). Therefore, we believe the portion of Haines Creek above Interstate 210 meets the definition of critical habitat (*see* Critical Habitat section and our response to Comment 13 above).

Comment 16: One peer reviewer clarified Haines Creek water flow in the Big Tujunga floodplain originates in the

channelized, concrete-lined Haines Creek Channel that enters upstream from the Interstate 210 about 1 mi (1.61 km), and the only permanent habitat for Santa Ana suckers is downstream of Interstate 210.

Our Response: The area from which the peer reviewer asserts Haines Creek water flow originates was designated as critical habitat (Subunit 3A) for processes related to stream and storm water transport of preferred coarse sediments to downstream habitats (PCEs 1 and 2) (*see* the Critical Habitat Units—Subunit 3A: Big Tujunga and Haines Creeks section above).

Comment 17: One peer reviewer stated the recreational residences described in the proposed revised critical habitat rule may degrade water quality in the area and may result in dams that retain water for use in the event of fires. The peer reviewer is concerned about the illegal placement of these dams because they provide habitat for largemouth bass (*Micropterus salmoides*) that could increase the rate of predation on Santa Ana sucker.

Our Response: We appreciate the peer reviewer's concerns regarding the threat of recreational residences to Santa Ana sucker and its habitat. The USFS does issue special use permits for recreational residences within the forest; however, while they do not promote the building of recreational dams, they do not have a policy regarding the activity (L. Welch 2010, pers. comm.). In the proposed revised critical habitat designation (74 FR 65056; December 9, 2009), we described activities within the listed range of Santa Ana suckers contributing to the threats of habitat destruction, degradation, and fragmentation, including recreational residences and recreational use of the river (unauthorized creation of dams for bathing, fishing, or dredging). We acknowledge that activities associated with recreational residences may require special management to ensure that the PCEs necessary for the survival and recovery of Santa Ana sucker are maintained (74 FR 65064; December 9, 2009). We are unaware of the extent of river water use for extinguishing fires. We are aware that largemouth bass are significant predators of small fish and may prey on Santa Ana suckers (McGinnis 1984, p. 212). The designation of critical habitat will require the USFS to consult with the Service under section 7(a)(2) of the Act to ensure their actions will not result in jeopardy of the species or adverse modification of critical habitat. As such, the USFS will consider the impacts of their management actions on the physical and biological features essential to the conservation of Santa Ana sucker and may modify or mitigate actions to avoid jeopardy of Santa Ana sucker or adverse modification of critical habitat.

Comment 18: One peer reviewer concurred with our use of a maximum gradient of 7 degrees to distinguish impassable areas of a river unsuitable for Santa Ana suckers. However, they also stated this gradient may be less important than individual (manmade) barriers throughout the watershed.

Our Response: There are no previous studies to indicate what gradient is limiting for Santa Ana sucker. The 7 degree maximum gradient was determined by analyzing previous occurrence data and river gradient at those points. We evaluated the reaches of river that met the gradient qualification and then assessed the suitability of the habitat (*see* Criteria Used To Identify Critical Habitat section). We agree that impassable barriers such as permanent or inflatable dams and other drop structures in the river will present a barrier for fish passage. We recognize that some level of special management may be necessary to address these current and future threats to the physical and biological features essential to the conservation of the species (74 FR 65056; December 9, 2009).

Comment 19: One peer reviewer expressed concerns about OHV use in the Santa Ana River in the early 2000s occurring specifically from the Riverside Freeway to the RIX facility and Rialto Drain.

Our Response: We are aware that OHV use along the Santa Ana River is occurring and may impact Santa Ana sucker habitat. The area the peer reviewer mentioned does have signs posted that OHV use is not permitted. This area is within the jurisdiction of the both the SAS Conservation Program and Western Riverside County MSHCP, and OHV use in the area is prohibited. However, information indicates that measures provided under the plan and local law enforcement efforts may not be sufficient to deter unauthorized OHV use of the river in this area (Beehler 2010, pers. comm.). We included this area in the critical habitat designation and agree that it contains those physical and biological features essential to the conservation of the species that may require special management considerations or protection (*see* further discussion in the OHV discussion added to the Special Management Considerations or Protection section of this final rule).

Comment 20: One peer reviewer stated that although the SAS Conservation Program conducts monitoring at a number of locations within the Santa Ana River, a more comprehensive river-wide survey is needed to adequately assess the occupancy status of Santa Ana sucker throughout the Santa Ana River.

Our Response: We appreciate the peer reviewer's critical review and agree that a more comprehensive survey would help to guide recovery actions and determine Santa Ana suckers' rangewide status. However, we do not believe this information is necessary for our final revised critical habitat designation. We note that the goal of surveys conducted under the SAS Conservation Program is to provide information about the presence of Santa Ana sucker within the range of the program area; surveys conducted under the program are not intended to determine occupancy status throughout the species' range or even the entire Santa Ana River. The population monitoring that the SAS Conservation Program has undertaken since 2001 is only one of the activities that provides valuable information on the occupancy status and trends in population of Santa Ana sucker for this limited portion of the range. The SAS Conservation Program's objective is to provide for the conservation of Santa Ana sucker through development and implementation of a regional maintenance program for ongoing maintenance activities along the Santa Ana River. We believe the SAS Conservation Program provides valuable information on the status of Santa Ana sucker within the range of the Program's activities.

Federal Agency Comments

Comment 21: The U.S. Army Corps of Engineers (ACOE) expressed their concern that the critical habitat designation in the Santa Ana River above Seven Oaks Dam, below Prado Dam, and in the upper Prado Dam Basin may impact the ongoing construction, operation, and maintenance of several elements of the Santa Ana River Mainstem Flood Control Project (SARP). The commenter is concerned that the designation of critical habitat would place significant restrictions on the manner in which the operations and management work is performed and potentially affect the lives and property of millions of citizens. They are also concerned that the economic analysis did not consider the potential impacts of the critical habitat designation to SARP.

Our Response: The determination of whether activities or operations may adversely affect the areas designated as critical habitat for Santa Ana sucker would need to be evaluated on a project-specific basis by the Federal action agency and the Service. Consultation on existing or future Federal projects, if determined to be necessary, would be either reinitiated or initiated by the Federal action agency under section 7 of the Act. Section 7 also allows for emergency consultations in response to an act of God, disasters, casualties, national defense, or security emergencies (such as to expedite measures required to ensure human health and safety) (50 CFR 402.05). Emergency consultation procedures allow action agencies to incorporate endangered species concerns into their actions during the response to an emergency. If a Federal agency must take emergency action that may affect a listed species or critical habitat, the agency would contact the Service to identify actions that could be implemented to minimize take of listed species while responding to the emergency. The Service is very sensitive to the need to allow response efforts necessary to avoid imminent loss of human life or property. The Federal action agency would initiate formal consultation after the fact and provide necessary documentation to the Service for an after-the-fact biological opinion that documents the effects of the emergency response on listed species or critical habitat. Therefore, we do not believe delays due to section 7 consultation on flood control actions should pose a significant risk to human health and safety, and we did not exclude any areas from this final critical habitat designation on the basis of lengthy section 7 consultation on flood control actions. Additionally, the final economic analysis includes potential impacts to Federal and non-Federal projects (*see* Economic Analysis section above and our response to comments on the economic analysis below).

State Agency Comments

Comment 22: The California Department of Fish and Game (CDFG) identified additional areas that they believe would be suitable habitat for Santa Ana sucker reintroduction that we did not discuss specifically in the proposed revised critical habitat designation: Upper Santa Ana River to Heartbar Campground, Mill Creek and extending into Mountain Home Creek (near Forest Falls), Plunge Creek, Strawberry Creek, Lytle Creek, Cajon Creek, City Creek, Twin Creek, Santa Ana River from Gypsum Canyon Road to Weir Canyon, Aliso Creek, and San Jacinto Creek.

Our Response: We appreciate CDFG's comment letter and information that it provided; however, in this final critical habitat designation, we are not including as critical habitat areas that were previously identified solely for reintroduction purposes (74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that these areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these or any other areas are needed for the species' recovery. *See* response to Comments 5 and 9 above, and the Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section.

Comment 23: The CDFG expressed concern regarding habitat suitability in the upper Santa Ana River above Seven Oaks Dam and City Creek for possible reintroduction sites, as described in the proposed revised critical habitat rule. They stated the presence of brown trout would make these areas unsuitable for reintroduction, and that any program attempting to eradicate brown trout would conflict with recreational fishing.

Our Response: We appreciate CDFG's comment letter and information that it provided; however, in this final critical habitat designation, we are not including as critical habitat areas that were previously identified solely for reintroduction purposes (upper Santa Ana River above Seven Oaks Dam or Plunge Creek; 74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that these areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. *See* response to Comments 5, 9, and 22 above and the Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section.

Comment 24: The CDFG stated all the places mentioned as potential reintroduction sites in the Santa Ana River would require some management and monitoring because of the lack of connectivity between many of the tributaries and the Santa Ana River mainstem.

Our Response: We concur with the CDFG and recognize that any reintroduction areas would likely require active management for successful reintroduction and proliferation of Santa Ana suckers. We appreciate CDFG's comment letter and information that it provided; however, in this final critical habitat designation, we are not including as critical habitat areas that were previously identified solely for reintroduction purposes (74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that these areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. *See* response to Comments 5, 9, 22, 23 above, and the Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation Section.

Comment 25: The CDFG stated there has been a reduction in coarse sediment transport as a result of the Prado Dam. They stated they are in favor of restoring sediment transport to the lower reaches of the Santa Ana River.

Our Response: We agree that the construction and operation of the Prado Dam has likely inhibited the transport of coarse sediments, such as gravel and cobble. We recognize the importance of cobble and gravel substrates that provide suitable habitat for Santa Ana sucker reproduction, feeding or forage, and shelter (PCE 2) (Service 2009, p. 65061). Diminished water and coarse sediment transport, and sediment removal, have been identified as a threat that may require special management (*see* Special Management Considerations or Protection section above). Special management actions may be necessary to replenish the lower reaches of the Santa Ana River with substrates necessary for the conservation of Santa Ana sucker (*i.e.,* gravel and cobble).

Other Comments

Comments Related To Subunit 1A

Comment 26: Ten commenters stated that Subunit 1A was determined to be not essential for the conservation of the Santa Ana sucker was excluded from the 2005 final critical habitat rule, and thus should also be excluded from this critical habitat designation. They also stated that Subunit 1A should be excluded because the economic burden to this area would be devastating if critical habitat is designated.

Our Response: The commenters did not provide any explanation or new scientific information supporting their assertion that Subunit 1A should be excluded from this final revised critical habitat designation because it is not essential for the conservation of the Santa Ana sucker. They simply noted

that Subunit 1A was excluded in the 2005 final critical habitat rule (*see* the Summary of Changes From Previous Critical Habitat—Unit 1: Santa Ana River section above for specific discussion). We considered all new scientific information acquired since the 2005 final critical habitat rule, used more specific PCEs and higher resolution mapping when determining critical habitat, and conducted a new analysis of considered exclusions. We concluded the Santa Ana River above Seven Oaks Dam and Plunge Creek, which were previously identified as critical habitat in Subunit 1A, do not meet the definition of critical habitat because we lack information indicating that these areas were historically occupied by the species and we lack sufficient information to support a determination that these areas are needed for the species' recovery. In particular, we lack supporting information at this time regarding the feasibility of introducing Santa Ana sucker at either location. Furthermore, upstream movement of Santa Ana suckers from the Santa Ana River mainstem is precluded into Plunge Creek and into the upper Santa Ana River and Bear Creek. Additionally, a comprehensive conservation strategy for Santa Ana sucker has not been developed, although efforts are underway for us to develop a recovery outline and recovery plan. Therefore, we cannot conclude at this time that these areas are essential for the conservation of the species. In this final designation, Subunit 1A now encompasses the mainstem of the Santa Ana River from Tippecanoe Avenue to below Seven Oaks Dam, and City Creek and Mill Creek from their confluence with the Santa Ana River. We determined that this area meets the definition of critical habitat for Santa Ana sucker and believe it is essential for the conservation of the species. This subunit also contains PCEs necessary for Santa Ana sucker is one of the only locations within Unit 1 that is outside the highly urbanized area, and contributes essential water sources and coarse sediments to the downstream occupied areas of the Santa Ana River (*see* the Critical Habitat Units—Subunit 1A: Upper Santa Ana River section for additional discussion).

The final economic analysis (FEA) indicates that designation of Subunit 1A could result in substantial economic costs, primarily resulting from restrictions on water diversions from the Santa Ana River. In the Economic Analysis section above, we point out that the "High End" scenario presented in the FEA and the estimate of economic costs submitted by commenters likely substantially overstate the economic costs attributable to the designation of Subunit 1A because they assume that all future water diversions, rather than a portion of such diversions, would be prevented. We anticipate that some portion of the water diversions proposed or currently occurring could be accommodated by and would be consistent with the conservation measures necessary for Santa Ana sucker. We also point out that, as the FEA acknowledges, future restrictions on water diversions from the Santa Ana River necessary to ensure that Subunit 1A serves its conservation function for the species (which is to provide the essential physical and biological features such as the transport of water and coarse sediments) would also likely be necessary to ensure the survival of Santa Ana sucker itself in occupied Subunits 1B and 1C downstream. Thus, in the particular circumstances presented here, which consist of a single, integrated water system—the Santa Ana River watershed—any potential future restrictions on the diversion of water supplies from the river would likely occur whether or not Subunit 1A is designated as critical habitat, because such restrictions would be necessary to provide the habitat conditions downstream that support Santa Ana sucker in occupied Subunits 1B and 1C.

Even assuming that substantial economic and other impacts will result from designation of Subunit 1A as discussed in the FEA and in comments submitted on the proposed rule and DEA, this area is not excluded under section 4(b)(2) of the Act. As discussed earlier in Critical Habitat Units Subunit 1A: Upper Santa Ana River, this subunit is essential for the conservation of the species because it provides for essential processes, such as the transport of stream and storm waters that deliver coarse sediments necessary to maintain the habitat conditions essential to the survival and the recovery of the population of Santa Ana suckers downstream, which is one of only three extant populations in the three watersheds where the species naturally occurs. Our determination not to exercise our delegated discretion to exclude Subunit 1A from critical habitat designation under section 4(b)(2) of the Act is committed to agency discretion by law and is not reviewable (*see Home Builders Ass'n of N. Cal.* v. *U.S. Fish & Wildlife Serv.,* 2006 U.S. Dist. LEXIS 80255 at *66 (E.D. Cal. Nov. 2, 2006); *Cape Hatteras Access Preservation Alliance et al.* v. *U.S. Dept. of the Interior,* 2010 U.S. Dist. LEXIS 84515 ** 36–38 (D.D.C. August 17, 2010)).

Comment 27: Ten commenters believe the Santa Ana River mainstem above Seven Oaks Dam should not be designated as critical habitat because the proposed critical habitat rule was not based on the best available scientific data. One commenter stated that this area did not meet the definition of critical habitat because it was not historically occupied by Santa Ana suckers. This commenter provided Santa Ana sucker museum collection maps from near the Southern California Edison Powerhouse Number 3, immediately downstream from the site of the Seven Oaks Dam. The commenter suggested that if we do designate this area as critical habitat, it should be described as an "introduction" location as opposed to a "reintroduction" location in the final revised critical habitat designation.

Our Response: We agree with the commenters that Santa Ana sucker records do not exist upstream of Seven Oaks Dam; however, survey records for this species are not complete. As stated in the listing rule (65 FR 19686; April 12, 2000), we defined Santa Ana suckers' range to be rivers and large streams of the Los Angeles, San Gabriel, and Santa Ana River drainage systems in Los Angeles, Orange, Riverside, and San Bernardino Counties (65 FR 19686; April 12, 2000). However, in this final critical habitat designation, we are not including as critical habitat areas that were previously identified solely for reintroduction purposes (74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that these areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. *See* response to Comments 5, 9, 22, 23, 24 and 26 above, and the Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section.

Comment 28: Eleven commenters stated the upper Santa Ana River Wash, including the Santa Ana River above the Seven Oaks Dam, City Creek, and Plunge Creek, is unsuitable for Santa Ana suckers. They specifically stated that the following make the areas unsuitable for Santa Ana suckers: (1) Presence of brown trout, a possible predator; (2) conflicts with Southern California Edison diversion dams and powerhouses; (3) lack of PCEs; (4) only periodic presence of water in certain areas; (5) periodic suitability of water

quality; and (6) periodic inundation by flood waters. Additionally, the commenters state any reintroduction in this area is arbitrary and capricious, and, moreover, there is no recovery plan for the species to guide conservation efforts.

Our Response: In this final critical habitat designation, we are not including as critical habitat areas that were previously identified solely for reintroduction purposes (74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that these areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. *See* response to Comments 5, 9, 22, 23, 24 and 26 above, and the Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section. We are, however, designating critical habitat in City Creek, Mill Creek, and the Santa Ana River above Tippecanoe Avenue because these areas are essential for the conservation of the Santa Ana sucker. They provide a source of water and coarse sediment necessary to maintain all life stages of Santa Ana sucker (PCE 1) to downstream occupied areas, which is an essential physical and biological feature for Santa Ana sucker. We disagree with the commenters' suggestion that the reintroduction of Santa Ana suckers into the areas above Seven Oaks Dam and Plunge Creek is arbitrary and capricious. We based our revised proposed critical habitat designation (74FR 65056; December 9, 2009) on the study conducted by the Orange County Water District (OCWD 2009), which provides the most recent and comprehensive reconnaissance data available. This study was conducted specifically to determine the most suitable habitats for Santa Ana sucker reintroduction. The study qualitatively evaluated habitat suitability and threat presence at each location, ranked each location (OCWD 2009, p. 6–2), and recommended the areas most likely to support viable populations (OCWD 2009, pp. 6–5–6–6). However, at this time, we are not designating critical habitat solely for the purpose of reintroduction.

Comment 29: Six commenters stated that the "State Water Resources Control Board Decision 1649" (State Water Board's Decision 1649) determined the Santa Ana River upstream of Seven Oaks Dam is not essential for Santa Ana sucker; therefore, the commenters believe this area should not be designated as critical habitat.

Our Response: The commenters state that the State Water Board's Decision 1649, which was made in October 2009, followed the California Regional Water Quality Control Board's Santa Ana River Basin Plan (CRWQCB 2008), which does not list the upper Santa Ana River watershed in the Beneficial Use category based on presence of federally listed species under the Act (CRWQCB 2008, pp. 3–1—3–42). However, we anticipate that the CRWQCB will include this critical habitat designation in their evaluation when determining beneficial uses in future plans for the Santa Ana River basin. The commenters stated that the CRWQCB determined the area is "not essential." However, the CRWQCB language was not used in the context of critical habitat as defined under section 3 of the Act. "Critical habitat" is a term of art under the Act. A designation of critical habitat is made by the Service in accordance with the provisions of the Act and its implementing regulations. Critical habitat designation is not required under and is not governed by State law. When we conduct a critical habitat analysis, we use the best available scientific data to determine 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 essential to the conservation of the species which may require special management considerations or protection; and 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 (*see* Critical Habitat section above). The State Water Board is not charged with the legal responsibility to designate critical habitat, and Decision 1649 does not incorporate critical habitat as defined by the Act (as we did in the proposed revised critical habitat rule and in this final rule). Thus, any decision made by the State under State law regarding "essential" Santa Ana sucker habitat cannot supersede this Santa Ana sucker final critical habitat analysis and designation. We note that CRWQCB (2009, p. 23) decision 1649 specifically states that any analysis of impacts of potential water conservation operations (*i.e.,* diversion or holding for sale of water) on endangered species must be consulted on to the extent of the law to ensure all appropriate agencies have been consulted. Specific analysis of water diversions or holding (water conservation) as a result of the CRWQCB's decision on Santa Ana sucker and its essential habitat must be evaluated under section 7 of the Act. It is through section 7 consultation that we will evaluate the impacts of the proposed water diversion or conservation operations on Santa Ana sucker and its designated critical habitat.

As discussed in the Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section, the Santa Ana River upstream of Seven Oaks Dam was determined not essential for the conservation of Santa Ana sucker, because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. Therefore, we are not designating the area above Seven Oaks Dam as critical habitat in this final rule.

Comment 30: Six commenters stated that the Santa Ana River mainstem from Seven Oaks Dam to Tippecanoe Avenue should not be designated as critical habitat because this area is not essential for the conservation of the species. They stated that the Service did not describe the particular function of the PCEs present in this portion of the river. They reference the proposed revised critical habitat rule regarding the description in the Subunit 1A: Upper Santa Ana River section that indicates the upstream reach provides spawning and feeding substrates (Service 2009, p. 65070). However, the commenters believe the Service did not clearly identify why this area was being designated as critical habitat, and, therefore, the Service should not designate this area without clearly stating why it is essential for the conservation of the species. They stated that this stretch of the river is an intermittent stream and according to Humphrey *et al.'*s (2004) report evaluating the proposed revised critical habitat, only Mill and City Creeks and other streams provide downstream sediments.

Our Response: The best available scientific data do not support the commenters' assertion that the Santa Ana River mainstem from Seven Oaks Dam to Tippecanoe Avenue does not meet the definition of critical habitat (*see* our response to Comment 28 above). USGS gauge data indicate that the area between Seven Oaks Dam and Tippecanoe Avenue supports high flows (above 4,000 cfs) that are frequent enough for transport of gravel and cobbles. Furthermore, even river reaches that are intermittently dry provide a connective corridor (when sufficient flows are present) for transport of coarse sediment (PCE 2) from City and Mill

Creeks and water from the Santa Ana River above Seven Oaks Dam (PCE 1). As stated in supporting documentation from the commenters' submission, the Santa Ana River above Seven Oaks Dam was historically a principle contributor of coarse sediment to the lower portions of the river. Currently, Mill and City Creeks are two of the main sediment contributors (Humphrey *et al.* 2004, pp. 2–3). A connected and integrated system that can deliver the necessary coarse sediments to the lower reaches is required for species' survival and recovery. We are designating critical habitat in City Creek, Mill Creek, and the Santa Ana River above Tippecanoe Avenue because these areas are essential for the conservation of the species; they provide a source of water and coarse sediment necessary to maintain all life stages of Santa Ana sucker (PCE 1) to downstream occupied areas.

Comment 31: Six commenters believe the Service cited "new information" as the reasoning behind the proposed revisions to critical habitat, without clearly explaining what this "new information" was.

Our Response: We agree with the commenters and thus provide clarification and reiteration of this new information in the Background and Physical and Biological Features section above. The Summary of Changes From Previously Designated Critical Habitat section also describes specific revisions to the critical habitat designation and explanations of these changes.

Comment 32: Six commenters believe designation of critical habitat in Subunit 1A would contradict the State Water Resources Control Board's Decision 1649 to allow permitted water districts to divert up to approximately 200,000 acre-feet of water annually during storm events. They stated these water rights are a form of property, and critical habitat designation would likely constitute both a physical and regulatory "taking" of property that would require Government compensation under the Takings Clause.

Our Response: Regarding the relationship of the State Water Resources Control Board's Decision 1649 and this designation of revised critical habitat for the Santa Ana sucker, *see* our response to comment 29 above. We do not agree that critical habitat designation would constitute a physical and regulatory taking of property. The designation of critical habitat, in and of itself, has no legal effect on property rights and clearly does not effect a physical or regulatory "taking" of property. Critical habitat designation does not in and of itself affect or preclude property use; rather, it comes into play under section 7 of the Act when a proposed Federal action may adversely affect critical habitat. In the event an adverse finding is made in a section 7 consultation, the Service is required to identify any available reasonable and prudent project alternatives that would avoid adverse modification. The Act also incorporates procedures to exempt specific Federal actions from the mandates of section 7(a)(2) where irreconcilable conflicts exist. The Act contains thus contains several measures to reconcile the needs of listed species and their essential habitat with the needs of private or non-Federal landowners. The commenters' assertion that the designation of critical habitat for the Santa Ana sucker affects a regulatory or physical taking of private property is erroneous as a matter of law.

Comment 33: Nine commenters asserted City Creek should not be designated as critical habitat because it was excluded from the 2005 final critical habitat designation (70 FR 425; January 4, 2005). They also believe City Creek is currently unoccupied and does not provide a significant source of sediment to the Santa Ana River mainstem. Additionally, they stated the proposed revised critical habitat designation was improper for reintroduction because brown trout are present in the creek.

Our Response: The commenters did not provide any explanation or new information supporting their assertion that City Creek should be excluded from this final critical habitat designation, other than City Creek was not included in the 2005 final critical habitat rule as a policy decision to not include areas for maintenance of processes. We considered all new information acquired since the 2005 final critical habitat rule and conducted a new analysis of considered exclusions (*see* Exclusions section above). We determined this area meets the definition of critical habitat for Santa Ana sucker and believe the area and the process it provides are essential for the conservation of the species. This subunit not only contains the PCEs necessary to conserve Santa Ana sucker, it is one of the only locations within this unit that is outside the highly urbanized area. We are designating critical habitat in City Creek, Mill Creek, and the Santa Ana River above Tippecanoe Avenue because these areas are essential for the conservation of the species. They provide a source of water and coarse sediment, an essential physical and biological feature necessary to maintain all life stages of Santa Ana sucker (PCEs 1 and 2), in downstream occupied areas. Under section 3(5)(A)(ii) of the Act, critical habitat may include 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.

Comment 34: Six commenters believe if Mill and City Creeks are designated as critical habitat, the critical habitat designation must be seasonally limited to allow implementation of local projects that do not impact water and sediment flows.

Our Response: The definition of critical habitat does not allow for the designation of critical habitat on a temporal basis. Furthermore, critical habitat does not create a prohibition of activities. If the referenced temporally variable activities do not adversely affect habitat (*i.e.,* do not adversely impact water and sediment flows), then critical habitat should not have any regulatory effect on those activities (*see* Critical Habitat section above). The PCEs that we determined to be essential to the conservation of the species may not always be present in a single area at a single point in time; therefore, the dynamic nature of the system is represented by the PCEs and does not incorporate seasonality. *See also* responses to Comments 13 and 33 above for reasoning behind designating these areas.

Comment 35: One commenter stated that their current operations in City Creek and Santa Ana River include maintenance of the Inland Feeder and blow-off structures used to discharge water (approximately 50 acre-feet (61,67 cubic-meters)) into both rivers. They stated that these operations would not affect sediment transport in the watershed but may impact Santa Ana suckers if they were reintroduced into City Creek.

Our Response: We appreciate the information provided by the commenter. In this final critical habitat designation, we are not including as critical habitat areas that were previously identified for reintroduction purposes (74 FR 65056; December 9, 2009; 75 FR 38441; July 2, 2010). We now conclude that potential reintroduction areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. *See* response to Comments 5, 9, 22, 23, 24, 27, and 28 above, and Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section. We are, however, designating critical habitat in City

Creek, Mill Creek, and the Santa Ana River above Tippecanoe Avenue because these areas are essential for the conservation of the Santa Ana sucker; they provide a source of water and coarse sediment necessary to maintain all life stages of the species (PCE 1) to downstream occupied areas, which is an essential physical and biological feature for Santa Ana sucker. City Creek and Mill Creek are also part of the functioning hydrologic system and assist in maintaining water quality and temperature to downstream occupied reaches of the Santa Ana River. Under section 3(5)(A)(ii) of the Act, critical habitat may include 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. Therefore, we are designating City Creek, Mill Creek, and the Santa Ana River above Tippecanoe Avenue as critical habitat because they are essential for the conservation of the Santa Ana sucker. They provide a source of water and coarse sediment necessary to maintain all life stages of Santa Ana sucker in currently occupied areas.

Comment 36: Four commenters believe that the designation of Mill Creek to preserve a fluvial process is unnecessary because this process will occur without the designation of critical habitat. Further, they stated that the designation of critical habitat does not create more water or coarse substrate, and they believe we need to have a foreseeable threat to the area or the process to justify the designation (otherwise the commenters believe the designation is arbitrary).

Our Response: We are designating Mill Creek as critical habitat for Santa Ana sucker because it is essential for the conservation of the Santa Ana sucker; it serves as a source of water and coarse sediment (PCEs 1 and 2) that will be transported to the downstream occupied areas (*see* the description of Critical Habitat Units—Subunit 1A: Upper Santa Ana River section above). Mill Creek has been documented as a significant source of coarse sediment (PCE 2) to the lower Santa Ana River (Humphrey *et al.* 2004, p. 2). Mill Creek also assists in maintaining water quality (PCE 4) and temperature (PCE 5) to occupied reaches downstream. The designation as critical habitat provides an opportunity for the Service to consult on Federal projects that may impact these physical and biological features essential to the conservation of the species. Therefore, we determined that Mill Creek meets the definition of critical habitat (*see* description of Unit 1: Santa Ana River under the Critical Habitat Units section above) and are designating approximately 12 mi (19.3 km) of Mill Creek as critical habitat as a source of water (PCE 1) and coarse sediment (PCE 2) necessary to maintain all life stages of Santa Ana sucker. Contrary to the commenters' suggestion, we are not required to identify a foreseeable threat to an essential habitat area or identify specific features essential to the conservation of the species to justify designation of areas, such as Mill Creek, that are outside the geographical area occupied by the species at the time of listing. We have concluded that even though this area is unoccupied, and was not occupied at the time of listing, it is essential for the conservation of Santa Ana sucker because it provides for the essential process of water and coarse sediment delivery to occupied downstream areas of the Santa Ana River.

Comment 37: One commenter believes that other and lower-order tributaries than those proposed as revised critical habitat should be evaluated for critical habitat designation specifically for the purposes of refugia from predators and locations for flood control and operation of hydroelectric power facilities.

Our Response: We did include tributaries within all three critical habitat units (*i.e.,* Sunnyslope Creek and Rialto Drain in the Santa Ana River, Bear Creek and Big Mermaids Canyon Creek in the San Gabriel River, and Delta Canyon Creek and Gold Canyon Creek in Big Tujunga Creek) that may provide refugia within occupied areas from predators, flood control, and operation of hydroelectric power facilities. *See* response to Comment 5, 9, 22, 23, 24, 27, 28, and 36 above, and the Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section.

Comment 38: One commenter stated that, in Subunit 1A, all facilities (and a buffer) associated with operation of hydroelectric power facilities or water delivery should be excluded from the final critical habitat designation because these areas do not provide PCEs at this time or in the future. Additionally, the commenter stated that designation of critical habitat may expose hydroelectric power facilities to take of Santa Ana suckers.

Our Response: We appreciate the commenter's concern that facilities associated with operation of hydroelectric power facilities or water delivery do not provide the PCEs necessary for the conservation of Santa Ana sucker. When designating critical habitat boundaries within this final 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 Santa Ana sucker. The scale of the maps 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 final revised critical habitat are excluded by text in this final rule. Therefore, a Federal action involving the facilities mentioned by the commenter would not trigger section 7 consultation with respect to critical habitat; however, section 7 consultation would be necessary if operations of the facility impact the Santa Ana sucker or its habitat. If operations may impact the Santa Ana sucker, the Federal agency involved would be responsible for entering into consultation with the Service under section 7 of the Act.

We note that critical habitat designation is not relevant to the question of whether a proposed action may result in take of Santa Ana sucker. Unauthorized take of listed animal species is prohibited under section 9 of the Act. "Harm" as a form of take under the Act includes significant habitat modification that actually injures or kills a listed species by significantly affecting one or more of their essential behavioral patterns, such as breeding, feeding, or sheltering. Habitat modification that results in injury or death to a listed species is prohibited whether or not the habitat modified has been designated as critical habitat.

Comment 39: One commenter stated that we need to document a "real possibility" of extirpation of an entire area to justify the designation of critical habitat outside the geographic range of Santa Ana sucker at the time of listing.

Our Response: The commenter is incorrect. The definition of critical habitat is defined in section 3 of the Act as:

(i) 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

(I) Essential to the conservation of the species and

(II) That may require special management considerations or protection; and

(ii) 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.

Documentation of the possibility of extirpation is not a requirement that must be met in order for areas to meet the definition of critical habitat. We are designating areas outside the geographical range of Santa Ana sucker at the time of listing in Subunit 1A because we have determined that such areas are essential for the conservation of the species.

Comments Related to the Santa Ana Sucker Conservation Program (SAS Conservation Program)

Comment 40: Eighteen commenters expressed support for exclusion of lands covered by the SAS Conservation Program and stated that designation of critical habitat often provides little additional protection for listed species because section 7 of the Act already requires Federal agencies to ensure their actions do not jeopardize the continued existence of a listed species (70 FR 425; January 4, 2005). They further believe that exclusion of Subunits 1B and 1C will not result in extinction of the species.

Our Response: We understand the commenters' reasoning; however, we carefully and thoroughly analyzed this issue and have not concluded that the benefits of excluding lands in Subunits 1B and 1C within the jurisdiction of the SAS Conservation Program outweigh the benefits of including these lands in the final critical habitat designation. *See* Rationale For Including the Western Riverside County MSHCP and SAS Conservation Program in This Final Critical Habitat Designation section above for a detailed discussion of this analysis.

Comments Related to the Western Riverside County Multiple Species Habitat Conservation Plan (Western Riverside County MSHCP)

Comment 41: Five commenters believe that lands covered by existing conservation plans should be excluded from the final revised critical habitat designation because of the conservation benefit of the partnerships. They further state that Santa Ana sucker is a covered species under the Western Riverside County MSHCP, and therefore lands within this plan area in Subunits 1B and 1C should be excluded from the final revised critical habitat designation.

Our Response: The Western Riverside County MSHCP has provided an opportunity for valuable partnerships to be established and conservation measures for Santa Ana sucker to be implemented. However, in evaluating the partnership benefits contributed by the Western Riverside County MSHCP in the context of the current status and continued decline of the species and its habitat, we have not concluded that the partnership benefits of excluding lands covered by the Western Riverside County MSHCP outweigh the benefits of including these areas in the final critical habitat designation. Therefore, we are not excluding any lands covered by the Western Riverside County MSHCP in this designation under section 4(b)(2) of the Act in this final critical habitat rule. Please *see* the Rationale For Including the Western Riverside County MSHCP and SAS Conservation Program in This Final Critical Habitat Designation section of this rule for a detailed discussion of this decision.

Comments Related to Areas Designated as Critical Habitat

Comment 42: One commenter believes that the portion of the Santa Ana River from Tippecanoe Avenue to the La Cadena drop structure in Subunit 1B does not meet the definition of Santa Ana sucker critical habitat. The commenter reasoned this area does not meet the definition of critical habitat because it: (1) Is not currently occupied, (2) was not considered occupied at the time of listing, (3) is dry and concrete-lined in places, and (4) has areas that block fish passage. The commenter asserted they have been removing sediment from the system to maintain low-flow channels and are not aware this activity is impacting the transport of sediment to occupied locations downstream.

Our Response: We determined the Santa Ana River from Tippecanoe Avenue to the La Cadena drop structure to be essential to the conservation of the species, and consider this area to have been occupied at the time of listing (Service 2000, p. 19686; Service 2009, p. 65071). Currently, upstream movement of Santa Ana suckers is precluded by the drop structure at La Cadena Drive and this area is unoccupied by Santa Ana sucker. However, this reach of the river above La Cadena Drive is a connective corridor for sediment and water transport (PCE 1), even though it may be periodically dry (PCE 7). The best available scientific data indicate that this area contributes coarse sediment required for Santa Ana sucker breeding and feeding to the lower reaches of the river (Humphrey *et al.* 2004, pp. 2–3; USGS gauge data). The definition of critical habitat does not require habitat to be currently occupied or to have been occupied at the time of listing (*see* Critical Habitat section above); therefore, lack of current occupancy by Santa Ana suckers does not preclude critical habitat designation. We are designating critical habitat in City Creek, Mill Creek, and the Santa Ana River above La Cadena Drive and Tippecanoe Avenue because these areas provide a source of water and coarse sediment necessary to maintain all life stages of Santa Ana sucker (PCE 1) to downstream occupied areas, which is an essential physical and biological feature for Santa Ana sucker. These areas are essential for the conservation of the species.

We are also unaware of what impacts sediment removal may have on the functioning of the watershed system as a whole. A study detailing sediment transport within the system is needed to understand how extraction of sediment may be impacting Santa Ana sucker habitat. Answering this question is an important aspect of recovery planning because recent research has shown Santa Ana suckers are limited by the availability of suitable habitat for all life stages (Thompson *et al.* 2010, pp. 321–332). Because hydrologic system connectivity is important for the transport of coarse sediment and water downstream, this area was determined to be essential to the conservation of the species and therefore designated as critical habitat in this final rule.

Comment 43: One commenter believes the critical habitat designation was incomplete because it did not include any of the Santa Clara River Santa Ana sucker population. The commenter believes the discussion of PCEs in the Santa Clara River is lacking and the persistence of the species in this river reinforces the need to include this watershed in the final critical habitat designation.

Our Response: The Santa Clara River population of Santa Ana sucker does not belong to the entity listed under the Act; therefore, we did not designate areas in this river as final revised critical habitat. *See* the Geographic Range and Status sections of the proposed revised critical habitat designation (74 FR 65056; December 9, 2009), this final rule, and our response to Comment 3 above for a more detailed discussion of this issue.

Comment 44: One commenter believes the proposed revised critical habitat designation was incomplete because it did not include additional unoccupied habitat. They asserted that data exist describing Santa Ana River tributaries in San Bernardino County such as Mill, Plunge, City, Strawberry, Twin, Lytle, and Cajon Creeks and the Upper Santa Ana River upstream of Seven Oaks Dam that are good candidate habitats for Santa Ana sucker reintroduction.

Our Response: We understand the commenter's concerns and agree that reintroduction is likely needed for recovery of Santa Ana sucker. However, in this final critical habitat designation, we are not including areas that we proposed solely for reintroduction as critical habitat. We now conclude that these areas are not essential because we lack information indicating that these areas were historically occupied by the species and lack sufficient information to support a determination that these areas are needed for the species' recovery. We require more specific data detailing the need for reintroduction and the suitability of particular locations for reintroduction; therefore, we are not designating areas solely for the purpose of reintroduction. *See* response to Comments 5, 9, 22, 23, 24, 27, 28, 35, and 37 above, and Summary of Changes From 2009 Proposed Critical Habitat to This Final Critical Habitat Designation section. We are however, including in our final critical habitat designation two subunits that are considered unoccupied (*i.e.,* Subunits 1A and 3B) that provide for essential processes that are necessary for the conservation of Santa Ana sucker. Within Subunit 1A, we have determined that City Creek, Mill Creek, and the Santa Ana River above Tippecanoe Avenue provide or contain sources of water and coarse sediment necessary to maintain all life stages of Santa Ana sucker and are therefore essential for the conservation of the species. Strawberry, Twin, Lytle and Cajon Creeks were not designated as critical habitat because, at this time, we do not have data that indicate that they provide for these essential processes necessary for the conservation of the species; however, we may determine in the future that these areas are essential for the conservation of the species. As stated in the Critical Habitat Units—Subunit 1A: Upper Santa Ana River section, we believe in the Santa Ana River the currently occupied areas have been modified and degraded substantially and conservation of areas outside the geographical range occupied at the time of listing is essential. However, in this final critical habitat designation, we are not including areas that we proposed solely for reintroduction as critical habitat but are including unoccupied areas for the essential processes that they provide to occupied areas.

Comment 45: One commenter believes the Service should not eliminate from critical habitat designation any area proposed as critical habitat due to current or historical alterations of hydrology, such as upstream of dams or other impediments. They stated that the Service should work cooperatively with dam managers to mimic natural flows, which would aid in Santa Ana sucker recovery.

Our Response: We agree that natural flow regimes are important to the survival and recovery of Santa Ana sucker. We have designated stream reaches that have been hydrologically altered but still contain one or more of the PCEs, are essential to the conservation of Santa Ana sucker and may require special management consideration or protections. However, areas adjacent to dams, regardless of flow regime, do not provide PCEs and do not meet the definition of critical habitat (*see* Critical Habitat and Criteria Used to Identify Critical Habitat sections above). Therefore, the footprint of areas of dams and other impediments were not proposed nor finalized as critical habitat. A consultation under section 7 of the Act for dam operations would, however, analyze the indirect impacts of operations to upstream and downstream critical habitat that is designated. We will strive to work cooperatively with dam managers as appropriate to mimic natural flows to aid in Santa Ana sucker recovery, regardless of critical habitat designation.

Comment 46: One commenter believes the final revised critical habitat designation should support all existing conservation investments or mitigation efforts. Further, they believe these conservation or mitigation areas should be included in the final critical habitat designation to further support the success of these investments.

Our Response: The commenter did not provide specific examples of additional conservation or mitigation areas that are part of conservation efforts for Santa Ana sucker that were not included in the final critical habitat designation. The final critical habitat designation does include areas within the Western Riverside County MSHCP that are expected to be managed as reserve lands through implementation of the plan and includes the Big Tujunga Wash Mitigation Bank in the Big Tujunga Wash.

Comment 47: Two commenters believe that exclusions of critical habitat on the basis of a management plan is not a substitute for the designation of critical habitat and they asserted that coverage by a habitat management plan is not sufficient justification to exclude it from critical habitat designation. Additionally, the commenter believes that plans or programs in draft form (*i.e.,* the SAS Conservation Program) do not justify exclusion from critical habitat designation.

Our Response: We may exercise our delegated discretion to exclude an area from critical habitat under section 4(b)(2) of the Act if we conclude that the benefits of exclusion of the area outweigh the benefits of its designation. We do not exclude areas based on the mere existence of management plans or other conservation measures. The existence of a plan may reduce the benefits of inclusion of an area in critical habitat to the extent the protections provided under the plan are redundant with conservation benefits of the critical habitat designation. In particular, we believe that the exclusion of lands may be justified when they are managed and conserved in perpetuity. Thus, in some cases the benefits of exclusion in the form of sustaining and encouraging partnerships that result in on the ground conservation of listed species may outweigh the incremental benefits of inclusion. None of the areas under the jurisdiction of the SAS Conservation Program or the Western Riverside County MSHCP are currently conserved for the benefit of Santa Ana sucker, and we have not concluded that the partnership benefits of excluding lands covered by the SAS Conservation Program or the Western Riverside County MSHCP outweigh the benefits of including these areas in the final critical habitat designation. Please *see* the Rationale For Including the Western Riverside County MSHCP and SAS Conservation Program in This Final Critical Habitat Designation section above for a full discussion of our analysis for both the SAS Conservation Program and the Western Riverside County MSHCP.

Comment 48: One commenter believes the Service did not provide documentation that periodically dry areas are occupied by Santa Ana suckers. They stated the area from Mission Boulevard in Riverside County to the City of Colton experienced periods of insufficient flows from 1971 to 1982 (USGS gauge data); therefore, this reach should not be considered occupied by the species.

Our Response: The area the commenter described is known to be currently occupied by Santa Ana suckers (SMEA 2009, pp. 1–5) and was also occupied at the time of listing (Service 2000, pp. 19686–19687). Survey data are not available as far back as 1982, but recent data show the Santa Ana River at Mission Boulevard is routinely occupied by Santa Ana suckers (SMEA 2009, p. 1). Additionally, habitat surveys indicate this area is one of the few remaining

suitable areas for Santa Ana sucker (Thompson *et al.* 2010, pp. 330–331) in the Santa Ana River. There are areas further upstream that may experience periods of dewatering; however, these areas contain the physical and biological features essential to the conservation of the species because they provide sources of water and coarse sediment necessary to maintain all life stages of Santa Ana sucker (PCE 1) and are a connective corridor for transport of water and coarse sediments (PCE 2) to lower portions of the occupied or seasonally occupied range (PCE 7). Moreover, when this periodically dry reach is wetted from late winter rains, Santa Ana sucker has been reported from the La Cadena drop structure (Baskin *et al.* 2005, p. 2), which is currently as far upstream as the fish can travel due to the permanent barrier at La Cadena Drive. Therefore, this area is considered occupied by Santa Ana suckers and is included in this final critical habitat designation.

Comment 49: Four commenters stated that inclusion of areas along the Santa Ana River where compliance with Federal Emergency Management Agency (FEMA) regulation is required for flood control would trigger lengthy section 7 consultations on flood control actions. The commenters believe these lengthy consultations would delay operations because of the time required to conduct section 7 consultations, and may pose a risk to human health and safety.

Our Response: Section 7 of the Act provides for emergency consultations in response to an act of God, disasters, casualties, national defense or security emergencies (such as to expedite measures required to ensure human health and safety) (50 CFR § 402.05). Emergency consultation procedures allow action agencies to incorporate endangered species concerns into their actions during the response to an emergency. If a Federal agency must take emergency action that may affect a listed species or critical habitat, the agency would contact the Service to identify measures to minimize the impacts of the emergency actions that are feasible to implement while responding to the emergency. The Service is very sensitive to the need to allow response efforts necessary to avoid imminent loss of human life or property. The Federal action agency would initiate formal consultation after the fact and provide necessary documentation to the Service for an after the fact biological opinion that documents the effects of the emergency response on listed species or critical habitat. Therefore, we do not believe delays due to section 7 consultation on flood control actions should pose a significant risk to human health and safety, and we did not exclude any areas from this final critical habitat designation on the basis of lengthy section 7 consultation on flood control actions.

Comment 50: One commenter stated the proposed revised critical habitat rule discussion of groundwater rising in Subunit 1B below the Riverside Narrows downstream to Prado Dam was not entirely correct. They stated the Santa Ana River recharges significant quantities of water into the underlying Chino Basin that actually flows away from the river. The commenter concluded there is no cooling of Santa Ana River discharge from rising groundwater in this reach within Subunit 1B. Further, the commenter believes the Service should use updated information from the California Regional Water Quality Control Board (CRWQCB) since the 1995 analysis was completed before making any final critical habitat designation decisions about this reach of the river.

Our Response: The commenter did not provide documentation to support the assertions cited in their comment letter. The best available scientific data we have from the CRWQCB was updated in February 2008, and indicate there is rising groundwater in this reach (CRWQCB 2008, p. 1–13) which provides cool water to the Santa Ana River mainstem. Surveys indicate Santa Ana suckers occupy this reach even though it may experience ebbs and peaks in water volume (PCE 1). Additionally, this area also provides a connective corridor to the lower portion of the occupied range (PCE 7). Therefore, we designated Subunit 1B below the Riverside Narrows downstream to Prado Dam as critical habitat for Santa Ana sucker in this final rule.

Comment 51: One commenter asserted results from a recent study describe areas along the Big Tujunga Wash as unsuitable Santa Ana sucker habitat due to barriers that prevent migration. Therefore, the commenter requested we eliminate areas from the final critical habitat designation that are closest to the dam. Additionally, the commenter believes reaches above the Little Tujunga Wash may not contain perennial stream flow or pools that provide viable Santa Ana sucker habitat and should, therefore, be eliminated from the final critical habitat designation.

Our Response: The commenter submitted habitat suitability survey results for all life stages of Santa Ana suckers. The survey results indicate that the habitat throughout the Wash primarily has a "good" score, while very few locations have a "poor" score. Habitat scores correspond to a quantitative value assigned to each location after evaluating a variety of habitat characters that were measured in the main channel. Ranking was based on "excellent" corresponding to a score of 3–4, "good" corresponding to a score of 2–3, "fair" corresponding to a score of 1–2, and "poor" corresponding to a score of 0–1 (LACDPW 2009, Google Earth kmz file). This habitat suitability report contains the best scientific data available that are known to us at this time. Based on these data, we believe the areas designated as critical habitat in this final rule are consistent with the report conclusions. We agree that portions of the wash may be dewatered during certain periods throughout the year. However, these areas contain PCEs (1–7) and we found them to contain the physical and biological features essential to the conservation of the species. Therefore, we are designating critical habitat in this final rule throughout Big Tujunga Wash (Unit 3), including the area near the confluence with Little Tujunga Wash.

Comment 52: Three commenters stated that the Service should focus on recovery actions and partnership efforts to recover the Santa Ana sucker instead of critical habitat designation.

Our Response: We consider the partnerships and recovery actions that have been and will be achieved through our coordinated efforts with partners in all three watersheds to be of the utmost importance. We believe that coordinated efforts through partnerships are essential for conservation of listed species. We look forward to continuing and creating new partnerships with the many stakeholders and water users in the three watersheds where Santa Ana sucker is listed. Additionally, we plan to initiate development of a draft recovery plan in 2011, and will seek the involvement and participation of our partners and stakeholders.

Comment 53: One commenter stated that we are required to submit an Environmental Impact Statement according to National Environmental Policy Act (NEPA) requirements for "major" Federal actions.

Our Response: 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. Please *see* the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 *et. seq.*) section below.

Comment 54: Two commenters requested an exclusion of the West Fork of the San Gabriel River from Cogswell Dam to the San Gabriel Reservoir. They stated that this area is covered under the Long-Term Management Plan West Fork San Gabriel River (1989), which is signed by the USFS, CDFG, Los Angeles Department of Public Works, Angeles National Forest, California Trout, Inc., San Gabriel Basin Watermaster, San Gabriel Protective Association, and San Gabriel Water Committee. They state that the plan provides a benefit to Santa Ana sucker and its designated critical habitat through implementation of the plan for wild trout and non-game fishes.

Our Response: The Long-Term Management Plan West Fork San Gabriel River (USFS *et al.* 1989, pp. 1–22) does not contain specific management actions that address Santa Ana sucker. Furthermore, it only provides considerations for flow releases from Cogswell Dam, which address the risk of fishes being flushed downstream during high flow events. The plan offers no other conservation benefits that would ameliorate the threats in the West Fork of the San Gabriel River (*see* Critical Habitat Units—Unit 2: San Gabriel River and Special Managements Considerations or Protections sections). Additionally, Drake (1988, pp. 4–5) states that flows in the summer months may reach less than 1 cfs because all water that flows into the reservoir is stored behind the dam for water uses and the very small amount that may flow out is due to leakage dependent on the pressure of water stored behind the dam. Although the plan contains minimum stream flow recommendations (USFS *et al.* 1989, p. 11), there is no indication that they must be maintained or if they have been evaluated for the benefit of Santa Ana sucker. Therefore, the flow that is most important in the drier, summer months is contributed by tributaries such as Big Mermaids, Canyon Creek, and Bear Creek and not necessarily the flow released from Cogswell Dam. More importantly, recent survey efforts indicate that there has been a sharp decrease in the density of Santa Ana suckers and an increase in nonnative predators in the West Fork of the San Gabriel River (Haglund and Baskin 2002, p. 9–15; Ecorp Inc. 2007, p. 9; Ecorp Inc. 2010b, p. 9). This marked decline may indicate that there has been a change in fish assemblage in the West Fork due to changes in management or environmental parameters. Therefore, we are not excluding the West Fork of the San Gabriel River from the final critical habitat designation. We do encourage partnerships with land managers in an effort to implement management actions that will benefit Santa Ana sucker. In particular, we believe that the exclusion of lands may be warranted when they are managed and conserved in perpetuity for the benefit of listed species. The Long-Term Management Plan for the West Fork San Gabriel River (USFS *et al.* 1989, pp. 1–22) to date has not conserved lands for the benefit of Santa Ana sucker. We appreciate and recognize the management efforts of the participants of the Long-Term Management Plan for the West Fork San Gabriel River (USFS *et al.* 1989, pp. 1–22) and we look forward to working with them on recovery efforts in the future.

Comments Related to the Draft Economic Analysis

Comment 55: Several commenters urge the Service to fully analyze the economic impact of the designation, including all costs associated with the loss of local water supplies, potential flood damage, development, agricultural impacts and transportation infrastructure issues. In particular, these commenters are concerned about potential changes in operation and maintenance of Seven Oaks Dam. Other commenters highlight the potential for water supply losses. Another commenter states that the omission of the major issues affecting the region's economy resulted in a report that is not a fair assessment of the devastating economic impact of including Subunit 1A, particularly since a May 11, 2010 report outlined in detail the economic impact issues that inclusion of Subunit 1A would raise for the affected communities. The commenter states that the economic analysis sidestepped analysis of the major issues raised by the local agencies charged with supplying water, flood control and energy within the critical habitat designation.

Our Response: Following receipt of public comments on the economic analysis, the FEA has been revised to more fully incorporate concerns about potential impacts of critical habitat for Santa Ana sucker. In particular, Chapter 3 now more directly addresses the potential for critical habitat to result in loss of local access to water supplies (IEC 2010, pp. 3–1—3–25). While there is no history of restrictions on water diversion occurring for this species related to critical habitat, uncertainty exists regarding potential future impacts. In response to questions about potential Santa Ana sucker critical habitat impacts on water supply projects, the Service has identified five projects of concern to commenters as having a high probability of Santa Ana sucker critical habitat impacts. These probabilities are not specific to likely project modifications (*i.e.,* a high probability of Santa Ana sucker critical habitat impacts does not necessarily indicate that restrictions on water access are likely). However, to be conservative (*i.e.,* be more likely to overstate than understate costs), this analysis assumes that, under the High End Scenario, loss of access to local water supply will occur at these projects (IEC 2010, p. 3–3). The analysis assumes that replacement water will be available for purchase, and, as such, reductions in water availability for agriculture or development activities are not anticipated. To the extent that local water is not precluded from use for these projects, the analysis is likely to overestimate impacts under this scenario. In fact, we believe that the economic impact or incremental cost attributed to Subunit 1A is likely overstated for two reasons: (1) Projects outside the currently occupied range of Santa Ana sucker that may impact Santa Ana sucker in downstream occupied portions of the Santa Ana River would likely incur costs or modifications to projects for Santa Ana sucker conservation due to its status under the Act and the section 7 process regardless of the critical habitat designation in Subunit 1A and (2) it is highly unlikely that complete access to water rights would be restricted as a result of consultation as a result of the critical habitat designation (*see* Economic Analysis section above).

With regard to flood control, the Endangered Species Act does not compel species conservation to disregard protection of human life or property. This applies in emergency and well as routine maintenance situations. We note that the existing Santa Ana sucker critical habitat designation at Cogswell Dam (Unit 2), has not impeded flood control operations to date. Though sediment removal projects have not been conducted at Cogswell Dam since the species was listed, sediment removal projects at San Gabriel Reservoir in the same unit have been allowed to move forward when seine netting and extensive species monitoring efforts were undertaken, even with critical habitat designated. Importantly, 16 USC 1536(p) allows for emergency actions to be taken without section 7 consultation in the event of an "emergency situation which does not allow the ordinary procedures of this section to be followed." As, such, economic impacts that potentially could

result from a catastrophic flood event, such as loss of life or property value, are not quantified because management actions to prevent catastrophic flooding are not expected to be precluded due to designation of critical habitat for Santa Ana sucker.

Comment 56: One commenter states that several of the public water supply agencies affected by the designation are concerned because they have specific projects already slated for construction within the critical habitat area. Their concern is with the potential inability to build these projects should the Service decide that they are inappropriate due to critical habitat. The commenter states that "local agencies cite numerous instances" in which regulatory delay by the Service has caused elected officials to cancel projects in the belief that they may never be approved, though these projects are not specifically identified. The commenter states that the economic impact of uncertainty thus cannot simply be assumed away. The commenter also assumes that if planned construction projects are not built, the impact would be a loss of construction activity that is equal to the planned construction costs.

Our Response: The Service has conducted over 30 consultations on the sucker in critical habitat areas, most of which addressed transportation, utility, or other instream construction projects. In no instance has the Service concluded that a proposed project was likely to jeopardize the continued existence of Santa Ana sucker or adversely modify the species' designated critical habitat. The commenter does not provide information to support the claim of "numerous instances" of projects being cancelled due to the belief that they would never be approved, and our section 7 consultation record for Santa Ana sucker does not support this assertion. The commenter does not present justification for assuming that funds planned to be spent on construction would be unusable following critical habitat designation. It is unclear why, for example, funds could not be spent elsewhere on other projects in the event that a particular project was not conducted. Hence, total construction costs are not a good representation of the potential impacts of critical habitat designation.

Comment 57: One commenter states that, even if the economy recovers within the timeframe for the analysis, the next few years will have far lower economic activity than expected, particularly in the areas of development. As a result, assumptions about the discount rate for future costs and the time value of money need to be reevaluated.

Our Response: To discount and annualize costs, guidance provided by the OMB specifies the use of a real rate of 7 percent. The 7 percent discount rate is an estimate of the average real pre-tax rate of return generated by private sector investments. Although this rate of return may be lower during current market conditions, it is not clear how long current market conditions will persist. In addition, OMB recommends sensitivity analysis using other discount rates such as 3 percent, which some economists believe better reflects the social rate of time preference. Our analysis adopts OMB's existing guidance, presenting results using both the 7 and 3 percent discount rates (U.S. Office of Management and Budget, Circular A–4, September 17, 2003 and U.S. Office of Management and Budget, "Draft 2003 Report to Congress on the Costs and Benefits of Federal Regulations; Notice," 68 FR 5492, February 3, 2003).

Comment 58: One commenter states that the DEA inappropriately includes costs associated with time delays, regulatory uncertainty, and stigma, but it does not clearly define how it estimates those potential costs. Another commenter states the opposite, that given the potential impact of loss of local water resources due to the inclusion of Subunit 1A in the expanded Santa Ana sucker critical habitat, and the potential inability of development projects to gain water supply certification under California's 20-year law, the economic cost of the stigma of the expanded habitat on land values must be considered and evaluated.

Our Response: As discussed in Chapter 2 of the FEA, the designation of critical habitat may, under certain circumstances, affect actions that do not have a Federal nexus and thus are not subject to the provisions of section 7 under the Act. These indirect impacts are those changes in economic behavior that may occur outside of the Act, through other Federal, State, or local actions, and that result from the designation of critical habitat. These indirect consequences, such as time delays, regulatory uncertainty, and stigma, can constitute real impacts that result from critical habitat designation and are legitimately considered as a category of impacts in the analysis. However, data are not readily available to quantify these impacts in this case; thus they are discussed qualitatively in the FEA. As such, any potential stigma impacts on land values are not quantified.

Comment 59: One commenter states that the DEA only considers the number of section 7 consultations, and does not consider the potential for the designation of critical habitat to result in increased consultation complexity, costs, and time delays.

Our Response: As shown in Exhibit 2–4, the FEA assumes that critical habitat may result in additional administrative effort, *i.e.,* staff time and costs, to address adverse modification in section 7 consultations. Depending on the type of section 7 consultation, the direct cost of this additional administrative effort for each consultation is expected to range from $405 to $9,030. As such, the analysis attempts to capture the increased costs associated with increased complexity associated with consultations following critical habitat designation. As stated in the FEA, both public and private entities may experience incremental time delays for projects and other activities due to requirements associated with the need to initiate the section 7 consultation process and/or compliance with other laws triggered by the designation. While the analysis recognizes the potential for project delays to result from the critical habitat designation, these are not quantified in the FEA.

Comment 60: One commenter states that the economic analysis omits one of the most important impacts that the inclusion of Unit 1 in Santa Ana sucker critical habitat would have on water-short southern California. The incremental opportunity cost of the lost water would represent at least a $2.9 billion cost to the local economy over the 25-year planning horizon used by local agencies in Southern California.

Our Response: The commenter identifies a number of water supply projects in Subunit 1A and 1B as being potentially threatened by this critical habitat designation. These projects and related potential effects were noted in the DEA. The consultant report that accompanies the comment assumes that all water projects in Unit 1 will no longer have access to water sources in critical habitat areas following critical habitat designation for Santa Ana sucker. Some of these projects are existing, ongoing projects, while others are planned future projects. The reports estimate that the total annual volume of water needing replacement, beginning in 2010, then applies the current cost of State Water Project Water, raised at a rate of 2.97 percent over inflation over a 26-year period (2010–2035), to estimate the longer term costs of this loss. The report does not discount, arriving at an estimated total loss of

$2.87 billion over 26 years. These estimates are described in Chapter 3 of the FEA (IEC 2010b, pp. 3–1—3–25).

The Service notes that project modification determinations will be made on a project by project basis, and as such, the potential conservation requirements for future projects are uncertain. However, we note that water diversions have not been restricted as a consequence of past section 7 consultations on this species, including consultations involving designated critical habitat. In response to questions about potential Santa Ana sucker critical habitat impacts on water supply projects, the Service has identified five projects as having a high probability of sucker critical habitat impacts. These probabilities are not specific to likely project modifications (*i.e.,* a high probability of sucker critical habitat impacts does not necessarily indicate that restrictions on water access are likely). However, to be conservative (*i.e.,* be more likely to overstate than understate costs), our FEA assumes that, under a "High End" scenario, loss of access to local water supply will occur at these projects. We believe the likelihood of substantial water supply restrictions, particularly with regard to existing projects, is low however, given our extensive experience in evaluating projects in Santa Ana sucker critical habitat. Thus, based on our past experience, the commenter's estimate of costs, which appear in the FEA as part of the "High End" scenario, is likely to overestimate the economic impacts of designation because (1) projects outside the currently occupied range of Santa Ana sucker that may impact Santa Ana sucker in downstream occupied portions of the Santa Ana River would incur costs or modifications to projects for Santa Ana sucker conservation due to its status under the Act and the section 7 process regardless of the critical habitat designation in Subunit 1A and (2) it is highly unlikely that complete access to water rights would be restricted as a result of consultation as a result of the critical habitat designation (*see* Economic Analysis section above).

Comment 61: The price of water assumed in the calculation of water loss at Big Tujunga Creek appears to be held constant for future years. This methodology does not take into account the 2.97 percent change in prices beyond inflation that recent history has shown have been occurring. It also does not take into account the increases in local water prices that would occur if access to local water is cutoff in the proposed expanded habitat designation for Santa Ana sucker. Allowance for these facts must be taken into account in any and all forecasts of the opportunity cost of lost local water. Given that the entire issue of the proposed habitat designation is essentially about water usage, it is impossible to accept an economic analysis that omits the price implications of such an action.

Our Response: We agree that the real price of water is likely to increase over time, and have revised the cost estimates for replacement water at Big Tujunga Creek according to the commenter's suggested rate increase of 2.97 percent annually. The analysis now also points out that, should a large volume of replacement water be required as a result of critical habitat designation, this could exacerbate the increase in the local cost of water.

Comment 62: One commenter notes that incremental impacts for water management activities are over-estimated. In particular, the commenter states that agencies are already undertaking biological monitoring or paying into a collective fund for purposes of Santa Ana sucker monitoring. These costs would therefore be incurred even absent critical habitat.

Our Response: The FEA acknowledges in Section 3.3.2 that various flood control and water districts already undertake biological monitoring for Santa Ana sucker (IEC 2010b, pp. 3–19–3–20). Costs associated with currently ongoing monitoring activities are attributed to the baseline. However, several stakeholders identified the potential for critical habitat to result in monitoring for work undertaken outside of the wetted channel, where it would not be required absent critical habitat. Only monitoring costs for work outside of the wetted channel are considered incremental.

Comment 63: Several commenters state that the DEA fails to consider operational constraints on flood control operations that may be imposed as a consequence of the designation of critical habitat for Santa Ana sucker, and resulting consequences for flood control. One commenter believes that the designation of critical habitat in Subunit 1A would lead to a modification of the discharge regime for the dam that is contrary to the flood management needs of the river system. The commenter states that major issues include several billions of dollars of impact from potentially barring access to local sources of water and the potential that after Congress authorized investment of over $1 billion in Seven Oaks Dam, the facility potentially will not be able to be used, as designed, for flood control. The commenter states that critical habitat designation would override the will of Congress and leave economic assets like Disneyland and Anaheim Stadium unprotected from potential devastation in a 100 year flood.

Our Response: With regard to flood control, the Endangered Species Act does not compel species conservation to disregard protection of human life or property. This applies in emergency as well as routine maintenance situations. We note that the existing Santa Ana sucker critical habitat designation at Cogswell Dam (Unit 2), has not impeded flood control operations to date. Though sediment removal projects have not been conducted at Cogswell Dam since the species was listed, sediment removal projects at San Gabriel Reservoir in the same unit have been allowed to move forward when seine netting and extensive species monitoring efforts were undertaken, even with critical habitat designated. Importantly, 16 U.S.C. 1536(p) allows for emergency actions to be taken without section 7 consultation in the event of an "emergency situation which does not allow the ordinary procedures of this section to be followed." As such, economic impacts that potentially could result from a catastrophic flood event, such as loss of life or property value, are not quantified because management actions to prevent catastrophic flooding are not expected to be precluded due to designation of critical habitat for Santa Ana sucker.

Comment 64: Two public comments expressed concern that if critical habitat affects managers' ability to clean out sediment from behind Cogswell Dam that (1) the dam could need to be decommissioned, resulting in decommissioning costs of $20 million; (2) the loss of water storage in the basin, which is required to be 50,000 acre-feet in the three reservoirs in the Upper San Gabriel Canyon, would be reduced, increasing the likelihood of catastrophic flood damages of $2.3 billion; and (3) lost storage would lead to reductions in water supply in the region of 11,136 acre-feet per year, with a value of approximately $7.3 million.

Our Response: Our past experience at Cogswell Dam does not support the commenter's claim that water managers will be unable remove sediment at Cogswell Dam following critical habitat designation for Santa Ana sucker. As stated in the comments, the agency "was able to conduct a cleanout project in San Gabriel Reservoir between 2004 through 2006, utilizing areas in the upper reaches of the reservoir where critical habitat for the Santa Ana Sucker had been designated." As such, reservoir

cleanout has occurred in the recent past in Unit 2 while Santa Ana sucker has been present and critical habitat was designated. While conservation efforts were requested and undertaken, cleanout activities at the San Gabriel Reservoir were not precluded, and we have no basis to assume such activities would be precluded in the future. The FEA now includes substantial additional detail on the potential project modification costs at Cogswell Dam that was supplied by public commenters. While it is conceivable that a future consultation on operations at Cogswell Dam could result in recommendations for alternative operations scenarios, the commenter's assumptions about the outcome and economic impacts of such a future consultation are speculative and contrary to our past consultation record.

Comment 65: One commenter states that the effect of critical habitat on Southern California Edison hydropower operations from potential exposure to take, possible curtailment of water supply, water supply operations, and regulatory uncertainty have not been addressed in the economic analysis.

Our Response: As stated in Chapter 3 of the FEA, the Service has stated that potential project modifications resulting from future section 7 consultations involving Santa Ana sucker critical habitat will be made on a project by project basis, and as such, potential conservation requirements for future projects are uncertain. The analysis notes that there is no history of restrictions on water diversion occurring for this species related to critical habitat. In response to questions about potential Santa Ana sucker critical habitat impacts on water supply projects, we identified projects identified by commenters as having a high probability of Santa Ana sucker critical habitat impacts. Southern California Edison (SCE) facilities are not among these projects. As such, it appears that modifications of SCE facility water operations or a curtailment of water supplies available to such facilities related to critical habitat designation are not likely. Recognizing that regulatory uncertainty can affect behavior, the FEA includes the estimated costs provided by the commenter of a potential $6 million fish screen for Santa Ana sucker at these facilities as part of the calculated incremental conservation costs for Santa Ana sucker critical habitat even though the structure is above Seven Oaks Dam and outside the final critical habitat designation. The cost of the fish screen was assumed because of potential reintroduction of Santa Ana sucker near the location of SCE facilities. This area has been removed from the critical habitat designation and we are not currently designating any critical habitat solely for reintroduction purposes. Accordingly, incremental costs to Subunit 1A have been reduced and are reported in the memorandum to the FEA (IEC 2010c, p. 5). We point out, however, that a species may be reintroduced into an area whether or not the area is designated as critical habitat and that measures to reduce the impacts of take of a listed species may occur under section 7 or section 10 of the Act whether or not an area is designated as critical habitat. Thus take minimization costs, such as the costs of a fish screen, are not appropriately attributed to critical habitat designation.

In addition, as discussed in Appendix A of the FEA, the analysis investigates whether impacts to hydropower production facilities, should they occur, would constitute a significant adverse effect under Executive Order No. 13211, "Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use." The recent average gross generation for potentially affected SCE facilities is approximately 25.6 million kilowatts hours on an annual basis. This level of production represents the total amount of energy production that could be incrementally affected by critical habitat designation, and is well below the 1 billion kilowatts-hours threshold identified in Executive Order No. 13211. As stated above, modifications of SCE facility water operations or a curtailment of water supplies available to such facilities related to critical habitat designation are not likely (*see* response to Comment 26 above). However, we recognize that critical habitat adds an element of regulatory uncertainty to SCE's planning efforts, and does have the potential to affect its behavior. Even so, it appears that the energy industry is unlikely to experience a significant adverse effect as a result of the critical habitat designation for Santa Ana sucker even if these facilities were to undertake conservation efforts for the sucker that affect hydropower production.

Comment 66: One commenter states that the economic analysis does not even mention the cost of lost housing, industrial, office and retail development that would occur due to the interaction between the loss of local water, California's 20-year water for development certification law, and the lack of availability of State Water project water. If local agencies cannot tap their local water supply, and cannot obtain water through the State Water Project, this would mean shutting off population, household and employment growth for the area expected to accommodate most of Southern California's expansion.

Our Response: The FEA acknowledges the commenter's concern that water in southern California is limited. In addition, the existing requirement for new developments to provide certification of 20-year water supply may restrict development in general. It is entirely speculative to conclude that critical habitat will result in a reduced availability of water for development purposes. In quantifying potential impacts, the FEA assumes, as does the commenter's own analysis, that in the case that water access is limited due to critical habitat designation, replacement water will be available for purchase, at an increasing rate over time. As such, development impacts are not expected as a result of the critical habitat designation for Santa Ana sucker related to water access restraints. The FEA acknowledges that if Santa Ana sucker critical habitat restricts water access, the cost of water is likely to increase.

Comment 67: One commenter believes that the DEA overestimated potential impacts to development because it forecasts impacts to construction within the floodplain. Because construction in the floodplain is a safety risk, the commenter argues that these projects would not go forward, and therefore would not incur any associated impacts.

Our Response: Chapter 4 of the FEA presents a range of possible impacts to development (IEC 2010b, pp. 4–1–4–14). The low-end estimate assumes that developable acres that fall within the 100-year floodplain will not be developed in the foreseeable future. Because of development pressures in southern California, the high-end scenario does forecast that some development may occur on acres identified as potentially developable within the 100-year floodplain, but notes that this assumption likely results in an overestimate of costs due to development impacts.

Comment 68: One commenter states that the current economic situation may result in decreased future development. This decreased development may limit the funding available for conservation efforts under the Western Riverside County MSHCP. Therefore, the DEA should reassess the likelihood that these measures will be implemented and whether funds will be available to carry them out.

Our Response: As discussed in Section 4.6, the FEA assumes that development projects undertake

conservation efforts for Santa Ana sucker similar to those outlined under the Western Riverside County MSHCP. It assumes that the costs of these measures are borne by developers or landowners, not paid for out of any established conservation fund (IEC 2010b, pp. 4–9–4–11).

Exhibit 4–3 acknowledges that preliminary socioeconomic forecasts suggest that population growth may be somewhat slower than the forecasts used in the analysis (IEC 2010b, p. 4–4). To the extent that slower population growth results in fewer housing units being constructed, impacts may be overstated. A caveat to this effect has been added to section 4.9 of the FEA.

Comment 69: One commenter notes that two transportation projects do not have a projected construction date within the time frame of the analysis, and should therefore be excluded.

Our Response: As discussed in Section 5.3.1 of the FEA, Caltrans provided GIS data identifying planned transportation projects within the next 15 years, which falls within the analytic time frame for the FEA (IEC 2010b, p. 5–3). While anticipated construction dates were not available for Corridor Mobility Improvement Account projects, the analysis assumes that the projects will go forward within the next 15 years based on the time frame of Caltrans' GIS data. Therefore, it is appropriate to include potential impacts associated with these projects in the economic analysis.

Comment 70: One commenter is concerned that the designation may slow down the approval process for the Upper Santa Ana River Wash Land Management Plan (Plan B). The commenter believes that these delays may impact its business and employment at its quarry.

Our Response: The Service identified Upper Santa Ana River Wash Habitat Conservation Plan as likely to undergo consultation in the near future. Section 7.3.4 of the FEA discusses this plan and forecasts that it will undergo consultation in 2011 (IEC 2010b, pp. 7–9–7–11). As discussed in Section 6.5, the FEA does not quantify any impacts to sand and gravel mining operations. The commenter's sand and gravel operations are located outside of critical habitat areas, and therefore are not anticipated to be affected by the proposed designation.

Comment 71: One commenter notes that the total cost of the upcoming consultation on the Upper Santa Ana River Wash Habitat Conservation Plan is incorrectly attributed solely to the designation of critical habitat.

Our Response: As shown in Exhibit 7–11 of the FEA, administrative costs associated with this consultation are not attributed solely to the designation of critical habitat (IEC 2010b, p. 7–11). Only the portion of administrative effort associated with considering adverse modification for this consultation is considered an incremental impact. The remainder of administrative costs is attributed to the baseline scenario, and would be assumed to occur even absent the designation of critical habitat.

Comment 72: One commenter states that the DEA fails to include consideration of all the benefits resulting from the designation, such as the improvements in water quality and quantity, increases in property value, aesthetic benefits, preservation of native habitat for other species, and maintaining contiguous riparian and adjacent upland habitat for other species. The commenter asserts that these benefits should be assessed and quantified where possible or otherwise included in a detailed qualitative analysis.

Our Response: As described in Chapter 8 of the FEA, the purpose of critical habitat is to support the conservation of Santa Ana sucker. The data required to estimate and value in monetary terms the incremental changes in the probability of conservation resulting from the designation are not available. Depending on the project modifications ultimately implemented as a result of the regulation, other ancillary benefits that are not the stated objective of critical habitat (such as increased property values due to increases in water quality or preserving habitat for other non-listed species) may occur. These benefits are discussed qualitatively in Chapter 8 of the FEA.

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 final 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.

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 (5 U.S.C. 801 *et seq.*), whenever an agency is required to 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 (small businesses, small organizations, and small government jurisdictions), as described below. 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. The SBREFA amended RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. In this final rule, we are certifying that the critical habitat designation for Santa Ana sucker will not have a significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

According to the Small Business Administration, small entities include small organizations, such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000. To determine if potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this rule, as well as types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

To determine if the revised designation of critical habitat for Santa Ana sucker would significantly affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities, such as residential and commercial development. We apply the "substantial number" test individually to each industry to determine if certification is appropriate. However, the SBREFA does not explicitly define "substantial number" or "significant economic impact." Consequently, to assess whether a "substantial number" of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in an area. In some circumstances, especially with critical habitat designations of limited extent, we may aggregate across all industries and consider whether the total number of small entities affected is substantial. In estimating the number of small entities potentially affected, we also consider whether their activities have any Federal involvement.

Designation of critical habitat only affects activities authorized, funded, or carried out by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. In areas where Santa Ana sucker is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they authorize, fund, or carry out that may affect the species. Federal agencies also must consult with us if their activities may affect critical habitat. Designation of critical habitat, therefore, could result in an additional economic impact on small entities due to the requirement to reinitiate consultation for ongoing Federal activities (*see* Application of the "Adverse Modification" Standard section above).

In our final economic analysis (FEA) of the critical habitat designation, we evaluated the potential economic effects on small business entities resulting from implementation of conservation actions related to the revised designation of critical habitat for Santa Ana sucker. The analysis is based on the estimated impacts associated with the rulemaking as described in chapters 3 through 7 of the analysis and evaluates the potential for economic impacts related to: Water management, commercial and residential development; and transportation activities (IEC 2010b, p. A–2). The FEA indicates that the incremental impacts for water management activities are to be borne by city and county government jurisdictions. None of the government jurisdictions are considered small entities under the RFA (IEC 2010b, p. A–3). The incremental impacts for transportation projects are to be borne by State and Federal agencies such as the California Department of Transportation and the Federal Highway Administration, which are not considered small entities under the RFA (IEC 2010, p. A–2). The FEA only identifies only those small businesses associated with the development industry as potentially affected by the designation of critical habitat. The potential incremental conservation efforts associated with the development industry range from $96,100 to $306,000 on an annualized basis, with additional administrative costs to third parties associated with consultation under section 7 of the Act of $1,310 to $4,540 on an annualized basis for a total of $97,410 to $310,540 (IEC 2010b, p. A–7). The FEA estimates that 67 small entities, with estimated revenue of $2.8 million per entity, may be affected by the designation. The total estimated High End annualized incremental economic impact to these 67 small entities is approximately $310,000. If all impacts are distributed equally across all entities, this would equate to a 0.16 percent impact to each entity's annual revenues (IEC 2010b, p. A–4). As stated above, the memorandum to the FEA estimated a reduction 3 development projects due to the changes from the proposed to the final revised critical habitat designation, thus reducing the potentially affected small entities to 64. These 64 small entities are anticipated to bear total annualized impacts of $53,500 to $266,000. Assuming annual revenues of $2.8 million per small entity and that impacts are shared equally among entities, we estimate that annualized impacts may represent approximately 0.15 percent of annual revenues for each of these 64 entities. This assumption is likely to overstate the actual impacts to small development firms because it is calculated using the high-end estimates and some or all of the costs of conservation for Santa Ana sucker to development firms may ultimately be borne by current landowners in the form of reduced land values. Many of these landowners may be individuals or families that are not legally considered to be businesses. No NAICS code exists for landowners, and the SBA does not provide a definition of a small landowner (IEC 2010b, p. A–2; IEC 2010c, p. 7). Please refer to our FEA and memorandum to the FEA of critical habitat designation for Santa Ana sucker for a more detailed discussion of potential economic impacts.

In summary, we considered whether this designation would result in a significant economic effect on a substantial number of small entities. The total number of small businesses impacted annually by the designation is estimated to be 64, with total anticipated annualized impacts of approximately of $53,500 to $266,000. This impact is approximately 0.15 percent of the total incremental impact identified for development activities and may be an overestimate of the impacts considering that not all developers will be small and that some of these costs may be passed on to landowners. To evaluate whether this final rule will result in a significant effect on a substantial number of small business entities, we first determined whether the regulation will likely affect a substantial number of entities. Guidance from the Small Business Administration (SBA) indicates that if "more than just a few" small business entities in a given sector are affected by a regulation, then a substantial number of entities may be affected. "More than just a few" is not defined, and SBA suggests that a case-by-case evaluation be done. The memorandum to the FEA prepared for the final designation of critical habitat for the Santa Ana sucker predicts that 64 out of 24,800 small business entities in the residential and commercial development sector may be affected by the rule. Adopting a conservative approach in our analysis, we conclude that 64 entities equate to "more than just a few" small entities and, therefore, a substantial number of small business entities may be affected by the rule.

Next, we determined if the final revised designation of critical habitat would result in a significant economic effect on those 64 small business entities. There is no specific guidance under the RFA as to what constitutes a significant effect or at what scale the effect is measured—nationally or regionally. In implementing the RFA, the Service evaluates potential effects on a regional or local scale which, in most instances, results in a more conservative analysis. For the final revised critical habitat rule the Service relied on a threshold of 3 percent of annual revenues to evaluate whether the potential economic impacts of the designation on small business entities in the residential and commercial development sector may be significant. The FEA estimates that the annualized impacts of the final revised rule on the 64 potentially affected entities would be of 0.15 percent of their annual sales

revenue. Based on the above reasoning and currently available information, we concluded this rule would not result in a significant economic impact on a substantial number of small entities for water management activities, transportation activities, or commercial or residential development as identified in the FEA (IEC 2010b, pp. A–1—A–8). Therefore, we are certifying that the designation of critical habitat for Santa Ana sucker will not have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211 (E.O. 13211; "Actions Concerning Regulations That 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. OMB has provided guidance for implementing this Executive Order that outlines nine outcomes that may constitute "a significant adverse effect" when compared to not taking the regulatory action under consideration. The economic analysis finds that none of these criteria are relevant to this analysis. Thus, based on information in the economic analysis, energy-related impacts associated with Santa Ana sucker conservation activities within critical habitat are not expected. As such, the designation of critical habitat 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.

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

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), 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. As discussed in the FEA of the revised designation of critical habitat for Santa Ana sucker, we do not believe that this rule would significantly or uniquely affect small governments because it would not produce a Federal mandate of $100 million or greater in any year; that is, it is not a "significant regulatory action" under the Unfunded Mandates Reform Act. The FEA concludes incremental impacts may occur due to administrative costs of section 7 consultations for water management and development; however, these are not expected to affect small governments. Incremental impacts stemming from various species conservation and development control activities are expected to be borne by the Federal Government; California Department of Transportation; Cities of Colton, Highland, and Riverside; Counties of Los Angeles, Orange, San Bernardino and Riverside; Riverside County Flood Control and Water Conservation District, San Bernardino Valley Municipal Water District, San Bernardino County Flood Control District, Orange County Flood Control District, and Metropolitan Water District which are not considered small governments. Consequently, we do not believe that the revised critical habitat designation would significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

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 Santa Ana sucker in a takings implications assessment. Critical habitat designation does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. The takings implications assessment concludes that this designation of critical habitat for 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 rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this critical habitat designation with, appropriate State resource agencies in California. We received comments from one State agency and have addressed them in the Response to Comments section of the rule. 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 E.O. 12988 (Civil Justice Reform), the regulation meets the applicable standards set forth in sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. This final rule uses standard property descriptions and identifies the physical and biological features essential to the conservation of the species within the designated areas to assist the public in understanding the habitat needs of 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)).

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 readily acknowledge our 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, and no unoccupied Tribal lands that are essential for the conservation of Santa Ana sucker. Therefore, we are not designating critical habitat for Santa Ana sucker on Tribal lands.

References Cited

A complete list of all references cited is available on the Internet at *http://wwww.regulations.gov* and upon request from the Carlsbad Fish and Wildlife Office (*see* **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this rulemaking are the staff members of the Carlsbad Fish and Wildlife Office.

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

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

PART 17—[AMENDED]

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

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

■ 2. In § 17.95(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 Santa Ana sucker that experiences peaks and ebbs in the water volume (either naturally or regulated) that encompasses areas that provide or contain sources of water and coarse sediment necessary to maintain all life stages of the species, including adults, juveniles, larva, and eggs, in the riverine environment;

(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 necessary to maintain various life stages of the species, including adults, juveniles, larva, and eggs, in the riverine environment;

(iii) 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);

(iv) Clear or only occasionally turbid water;

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

(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 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

(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 Santa Ana sucker (*Catostomus santaanae*) follows:

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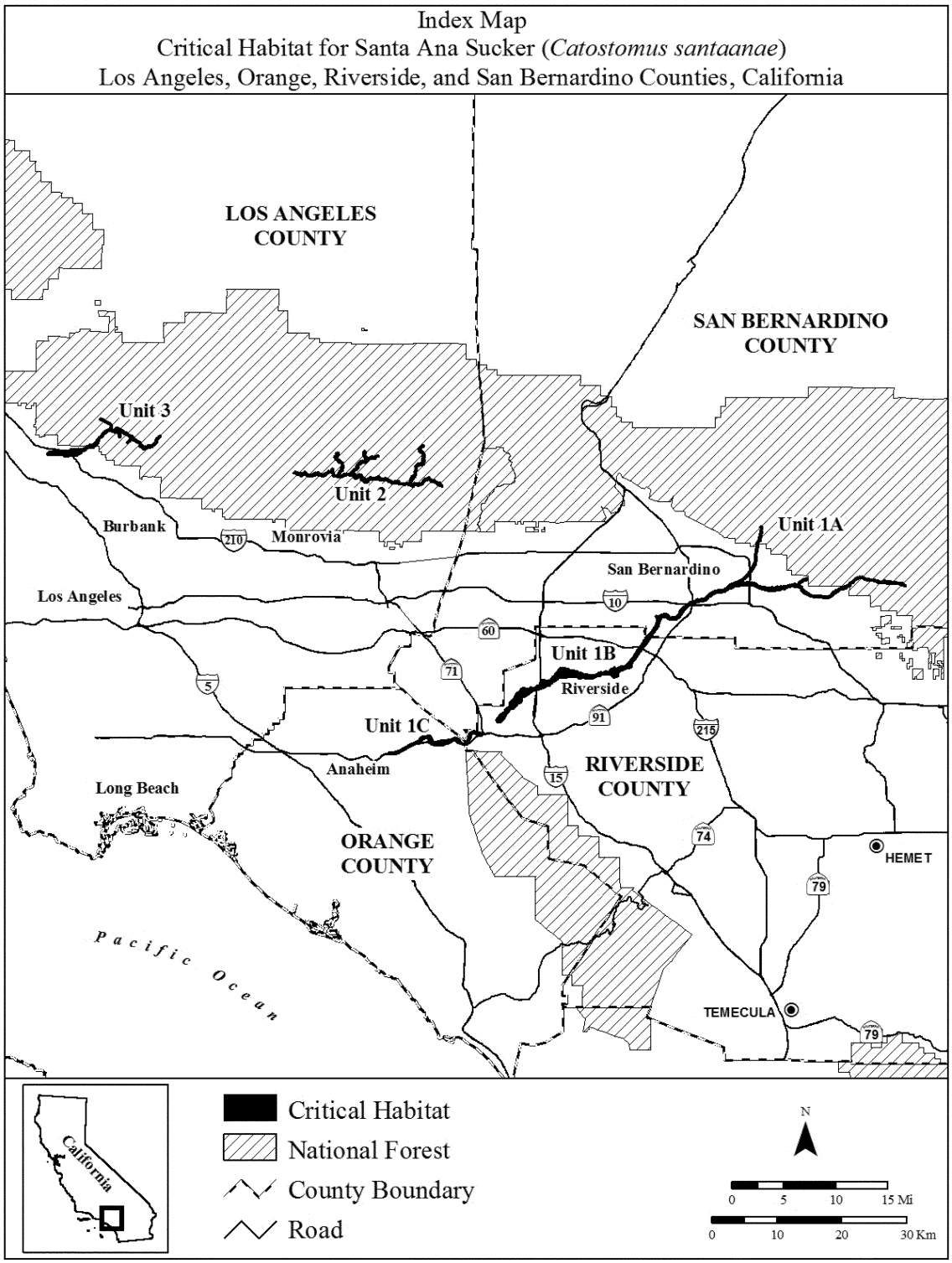

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(6) Unit 1: Santa Ana River, Orange, Riverside, and San Bernardino Counties, California. Subunit 1A: Upper Santa Ana River and Wash, San Bernardino County.

(i) From USGS 1:24,000 quadrangles Forest Falls, Yucaipa, Harrison Mountain, Redlands, and San Bernardino South. Land bounded by the following Universal Transverse Mercator (UTM) Zone 11, North American Datum of 1983 (NAD83) coordinates (E, N): 476057, 3771160; 476057, 3771361; 476067, 3771366; 476363, 3771455; 476483, 3771473; 477305, 3771538; 477407, 3771560; 477571, 3771632; 477860, 3771855; 478333, 3772242; 478402, 3772309; 478500, 3772377; 478520, 3772416; 478590, 3772455; 478940, 3772592; 479868, 3772941; 480001, 3773012; 480336, 3773247; 480371, 3773259; 480393, 3773293; 480485, 3773372; 480526, 3773394; 480690, 3773515; 480864, 3773680; 480972, 3773746; 481132, 3773944; 481165, 3774003; 481261, 3774091; 481297, 3774141; 481350, 3774237; 481644, 3774591; 481673, 3774640; 481719, 3774747; 481827, 3774915; 481925, 3775098; 481967, 3775198; 481974, 3775245; 481997, 3775288; 482030, 3775393; 482069, 3775467; 482110, 3775501; 482122, 3775547; 482158, 3775596; 482181, 3775692; 482245, 3775830; 482286, 3775963; 482425, 3776255; 482435, 3776468; 482450, 3776518; 482433, 3776544; 482427, 3776573; 482424, 3776650; 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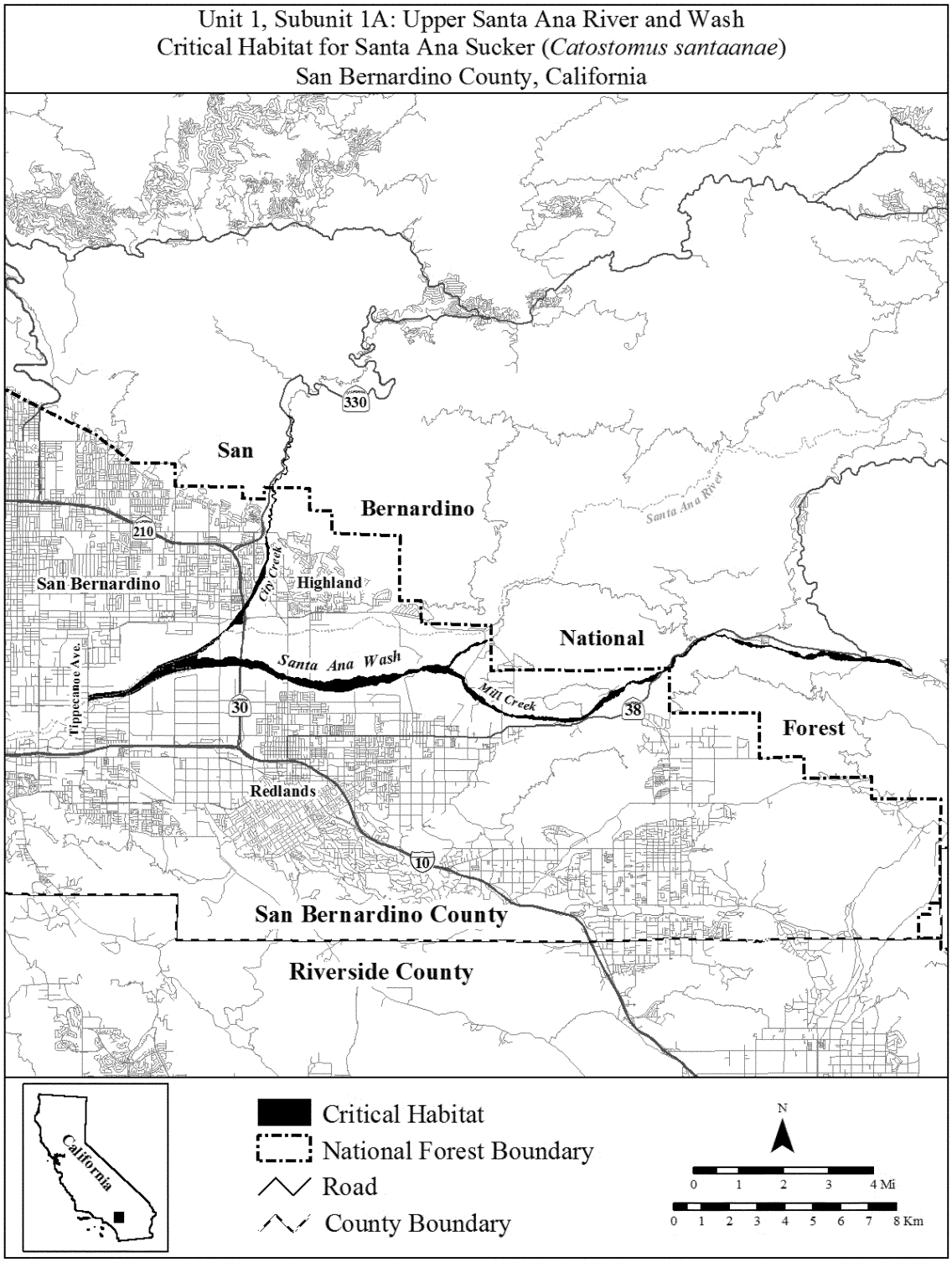
(ii) Map of Subunit 1A (Upper Santa Ana River and Wash) follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

(7) *Unit 1:* Santa Ana River, Orange, Riverside, and San Bernardino Counties, California. Subunit 1B: Santa Ana River, Riverside and San Bernardino Counties.

(i) From USGS 1:24,000 quadrangles San Bernardino South, Fontana, Riverside West and Corona North. Land bounded by the following UTM) NAD83 coordinates (E, N): 475287, 3770647; 475229, 3770631; 475159, 3770634; 475029, 3770505; 475080, 3770458; 475001, 3770373; 474886, 3770248; 474792, 3770167; 474561, 3770035; 474404, 3769989; 474266, 3769962; 474155, 3769951; 474074, 3769980; 474045, 3769929; 473999, 3769945; 473688, 3769905; 473458, 3769854; 473253, 3769789; 473090, 3769708; 472936, 3769643; 472759, 3769588; 472637, 3769564; 472418, 3769505; 472326, 3769464; 472166, 3769356; 472083, 3769264; 471951, 3769161; 471855, 3769099; 471802, 3769042; 471434, 3768721; 471194, 3768429; 471073, 3768237; 470973, 3768073; 470781, 3767667; 470656, 3767503; 470554, 3767389; 470432, 3767289; 470296, 3767200; 470161, 3767146; 470029, 3767110; 469902, 3767092;

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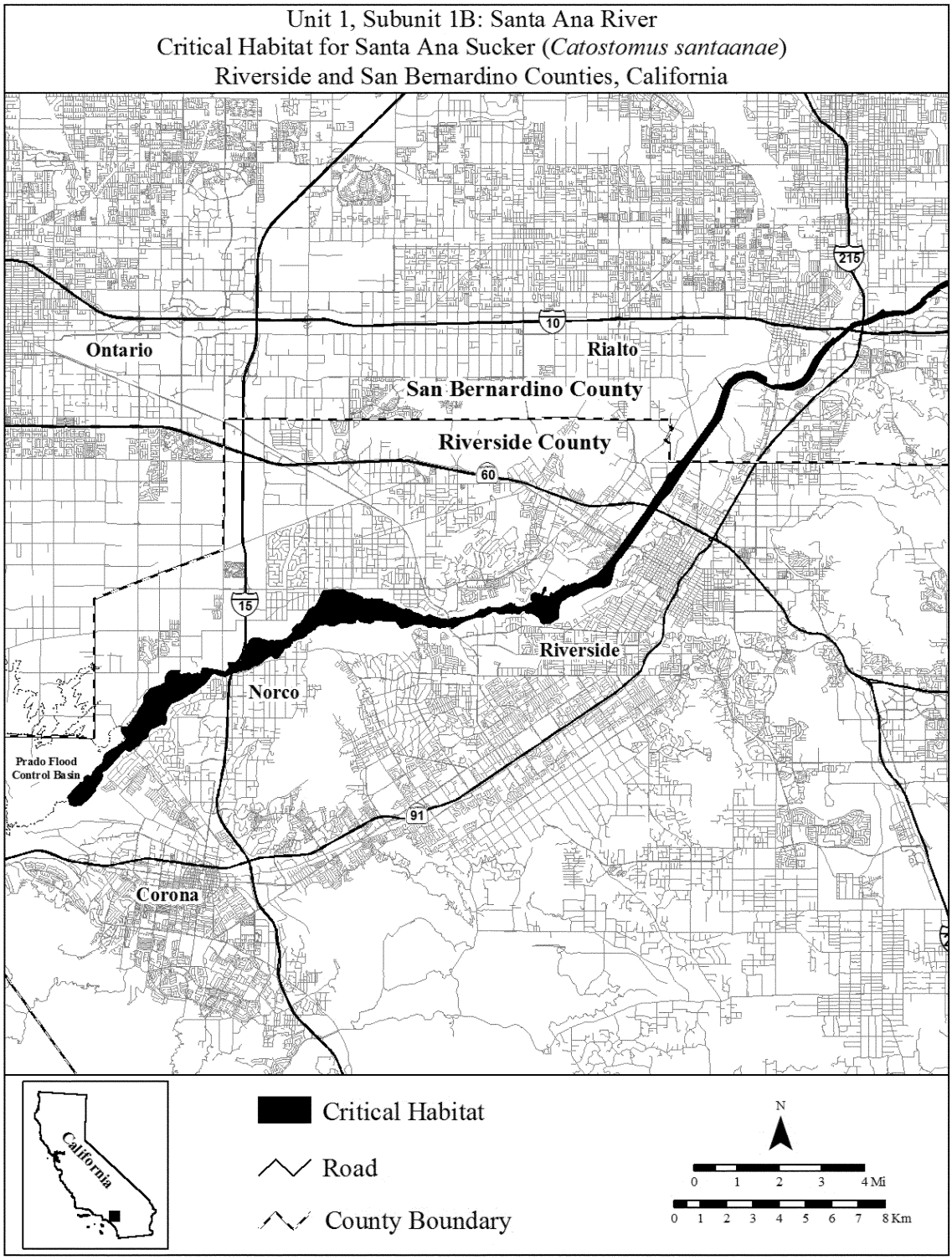
(ii) Map of Subunit 1B: (Santa Ana River) follows:

BILLING CODE 4310–55–P



(8) Unit 1: Santa Ana River, Orange, Riverside, and San Bernardino Counties, California. Subunit 1C: Lower Santa Ana River, Orange and Riverside Counties.

(i) From USGS 1:24,000 quadrangles Prado, Black Star Canyon and Orange. Land bounded by the following UTM) NAD83 coordinates (E, N): 439123, 3749777; 439223, 3749735; 439317, 3749737; 439475, 3749686; 439567, 3749560; 439645, 3749469; 439774, 3749500; 439943, 3749500; 440112, 3749446; 440161, 3749312; 439660, 3749201; 439520, 3749378; 439460, 3749399; 439399, 3749439; 439319, 3749542; 439301, 3749594; 439265, 3749606; 438894, 3749562; 438796, 3749584; 438742, 3749566; 438596, 3749491; 438516, 3749437; 438459, 3749364; 438448, 3749294; 438464, 3749237; 438366, 3748852; 438340, 3748760; 438283, 3748727; 438185, 3748276; 438122, 3748139; 438057, 3748079; 437949, 3748001; 437654, 3747892; 437464, 3747866; 437373, 3747865; 437292, 3747874; 437143, 3747915; 436895, 3748028; 436812, 3748073; 436669, 3748199; 436625, 3748312; 436585, 3748391; 436572,

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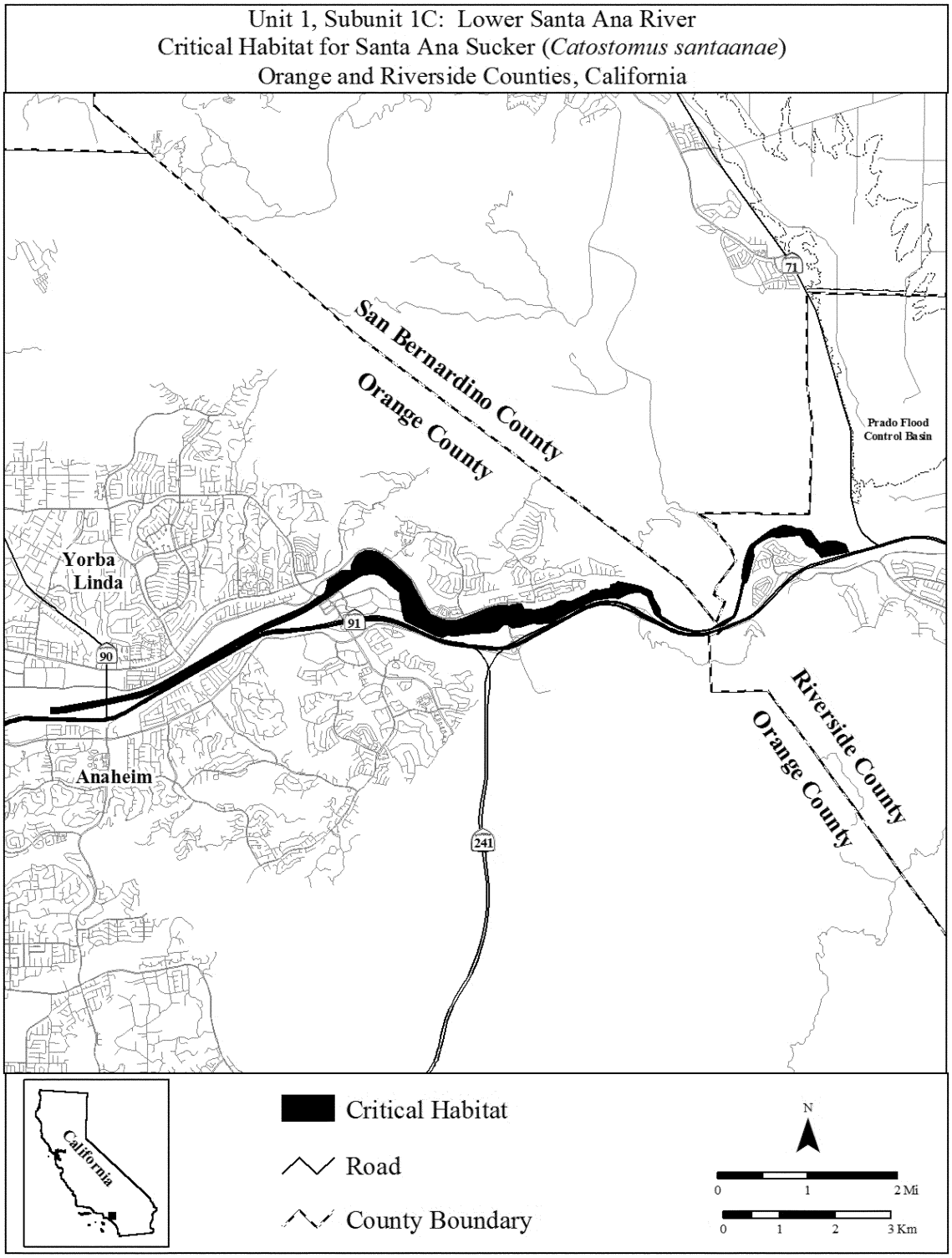
(i) Map of Subunit 1C (Lower Santa Ana River) follows:



BILLING CODE 4310–55–C

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

(i) From USGS 1:24,000 quadrangles Mount Baldy, Mount San Antonia, Crystal Lake, Waterman Mountain, Azusa and Glendora. Land bounded by the following UTM NAD83 coordinates (E, N): 412207, 3789649; 412240, 3789651; 412263, 3789642; 412291, 3789622; 412319, 3789588; 412362, 3789390; 412369, 3789285; 412385, 3789277; 412401, 3789280; 412418, 3789291; 412456, 3789343; 412507, 3789432; 412570, 3789514; 412622, 3789548; 412647, 3789547; 412666, 3789539; 412678, 3789496; 412694, 3789488; 412703, 3789493; 412747, 3789568; 412758, 3789617; 412751, 3789642; 412770, 3789656; 412790, 3789696; 412843, 3789762; 412866, 3789779; 412934, 3789799; 412952, 3789788; 412954, 3789775; 412945, 3789723; 412951, 3789658; 413055, 3789562; 413156, 3789439; 413169, 3789408; 413230, 3789343; 413269, 3789328; 413330, 3789348; 413367, 3789370; 413398, 3789365; 413418, 3789326; 413387, 3789291; 413389, 3789230; 413398, 3789203; 413415,

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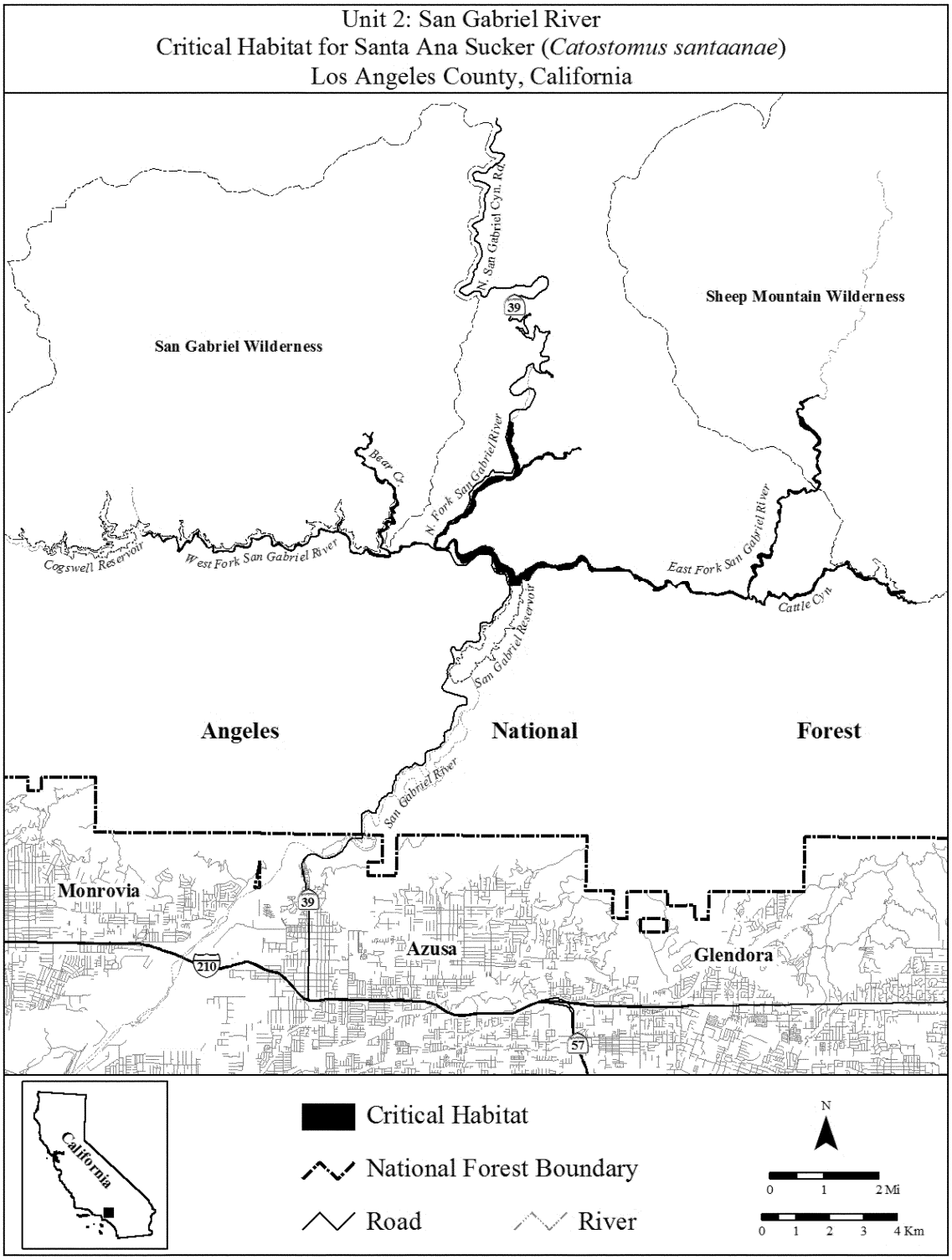
(ii) Map of Unit 2 (San Gabriel River) follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

(10) Unit 3: Big Tujunga Wash, Los Angeles County, California. Subunit 3A: Big Tujunga Wash.

(i) From USGS 1:24,000 quadrangles Condor Peak and Sunland. Land bounded by the following UTM NAD83 coordinates (E, N): 382996, 3796285; 383017, 3796285; 383034, 3796298; 383087, 3796289; 383191, 3796254; 383559, 3796102; 383600, 3796082; 383635, 3796047; 383703, 3796082; 383734, 3796136; 383755, 3796384; 383781, 3796466; 383777, 3796540; 383809, 3796564; 383903, 3796576; 383967, 3796569; 384008, 3796534; 384109, 3796490; 384156, 3796427; 384231, 3796397; 384262, 3796405; 384403, 3796388; 384489, 3796352; 384606, 3796287; 384699, 3796218; 384868, 3796044; 385054, 3795886; 385104, 3795866; 385315, 3795816; 385436, 3795802; 385491, 3795772; 385531, 3795766; 385564, 3795742; 385609, 3795652; 385779, 3795429; 385841, 3795414; 385904, 3795420; 385979, 3795413; 386111, 3795381; 386172, 3795359; 386263, 3795368; 386319, 3795353; 386360, 3795315; 386382, 3795260; 386389, 3795213;

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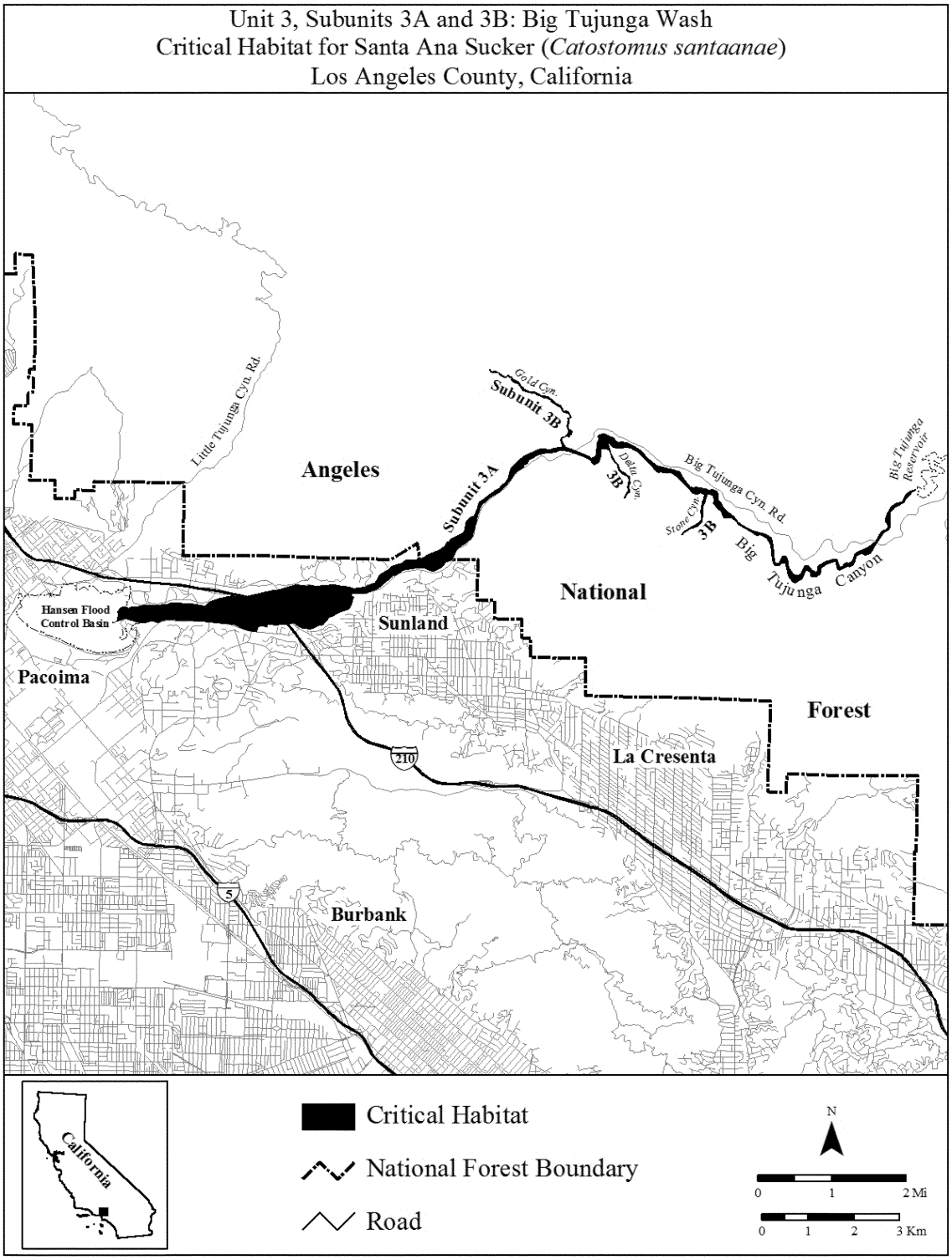
(ii) Map of Subunit 3A (Big Tujunga Wash) appears in paragraph (11)(ii) of this entry.

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

(i) From USGS 1:24,000 quadrangles Condor Peak and Sunland. Land bounded by the following UTM NAD83 coordinates (E, N): 382996, 3796285; 382995, 3796335; 382966, 3796453; 382967, 3796492; 382991, 3796511; 383044, 3796521; 383084, 3796551; 383116, 3796586; 383138, 3796625; 383140, 3796654; 383109, 3796684; 383094, 3796751; 383114, 3796789; 383122, 3796836; 383123, 3796888; 383109, 3796916; 383110, 3796937; 383155, 3796938; 383164, 3796946; 383173, 3796960; 383161, 3796988; 383110, 3797042; 383024, 3797055; 383011, 3797064; 382964, 3797148; 382915, 3797171; 382770, 3797275; 382747, 3797308; 382685, 3797339; 382658, 3797361; 382614, 3797360; 382492, 3797417; 382469, 3797417; 382417, 3797457; 382380, 3797460; 382348, 3797475; 382251, 3797482; 382207, 3797503; 382152, 3797518; 382114, 3797575; 382068, 3797622; 382036, 3797677; 381991, 3797700; 381967, 3797700; 381932, 3797717; 381900, 3797746; 381888, 3797785; 381895, 3797804; 381890, 3797817; 381855, 3797820; 381836, 3797841; 381822, 3797843; 381789, 3797814; 381744, 3797806; 381721, 3797811; 381649, 3797865; 381599, 3797914; 381494, 3797919; 381429, 3797938; 381414, 3797991; 381436, 3797991; 381438, 3797961; 381486, 3797933; 381521, 3797952; 381586, 3797941; 381754, 3797831; 381789, 3797833; 381815, 3797859; 381832, 3797863; 381873, 3797828; 381910, 3797833; 381922, 3797777; 381947, 3797753; 382057, 3797706; 382089, 3797666; 382094, 3797637; 382120, 3797603; 382166, 3797583; 382186, 3797554; 382256, 3797515; 382308, 3797504; 382389, 3797501; 382419, 3797491; 382532, 3797440; 382548, 3797416; 382575, 3797407; 382697, 3797390; 382819, 3797292; 382875, 3797235; 382962, 3797209; 383014, 3797136; 383011, 3797099; 383033, 3797068; 383079, 3797083; 383113, 3797073; 383146, 3797048; 383190, 3796973; 383194, 3796947; 383179, 3796925; 383132, 3796924; 383151, 3796897; 383155, 3796867; 383132, 3796748; 383138, 3796707; 383209, 3796628; 383199, 3796569; 383174, 3796556; 383167, 3796529; 383141, 3796518; 383103, 3796524; 383000, 3796475; 382997, 3796450; 383034, 3796361; 383087, 3796289; 383034, 3796298; 383017, 3796285; thence returning to 382996, 3796285. Continue to 384028, 3796247; 384053, 3796202; 384051, 3796176; 384059, 3796152; 384135, 3796001; 384194, 3795949; 384215, 3795916; 384228, 3795890; 384237, 3795827; 384251, 3795804; 384279, 3795790; 384301, 3795761; 384369, 3795715; 384391, 3795692; 384459, 3795652; 384471, 3795614; 384461, 3795548; 384473, 3795517; 384447, 3795462; 384454, 3795405; 384443, 3795388; 384469, 3795361; 384472, 3795305; 384448, 3795308; 384410, 3795277; 384359, 3795186; 384340, 3795182; 384392, 3795278; 384394, 3795298; 384418, 3795311; 384430, 3795341; 384409, 3795448; 384430, 3795467; 384430, 3795516; 384442, 3795542; 384443, 3795581; 384428, 3795628; 384412, 3795652; 384292, 3795724; 384216, 3795793; 384187, 3795926; 384171, 3795946; 384150, 3795950; 384131, 3795966; 384082, 3796037; 384023, 3796194; 383996, 3796242; thence returning to 384028, 3796247. Continue to 386146, 3795243; 386141, 3795218; 386119, 3795182; 386085, 3795059; 386058, 3795006; 386064, 3794847; 386033, 3794669; 385965, 3794586; 385935, 3794565; 385911, 3794564; 385829, 3794527; 385793, 3794521; 385648, 3794422; 385617, 3794387; 385597, 3794392; 385646, 3794454; 385681, 3794463; 385773, 3794538; 385932, 3794625; 386022, 3794719; 386025, 3794798; 386004, 3794872; 386041, 3795101; 386079, 3795179; 386091, 3795247; thence returning to 386146, 3795243.

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

BILLING CODE 4310–55–P



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Dated: November 29, 2010.

Will Shafroth,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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BILLING CODE 4310–55–C