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Endangered and Threatened Wildlife and Plants; Designation of Revised Critical Habitat for the Tidewater Goby; Proposed Rule

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**[Docket No. FWS–R8–ES–2011–0085; MO 92210–0–0009]**

**RIN 1018–AX39**

## Endangered and Threatened Wildlife and Plants; Designation of Revised Critical Habitat for the Tidewater Goby

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), propose to revise critical habitat for the tidewater goby (*Eucyclogobius newberryi*) under the Endangered Species Act of 1973, as amended (Act). In total, approximately 12,157 acres (4,920 hectares) are being proposed for designation as critical habitat. The proposed revised critical habitat is located in Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties, California.

**DATES:** We will accept comments received or postmarked on or before December 19, 2011. We must receive requests for public hearings, in writing, at one of the addresses shown in the **FOR FURTHER INFORMATION CONTACT** section by December 5, 2011.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Enter Keyword or ID box, enter Docket No. FWS–R8–ES–2011–0085, which is the docket number for this rulemaking.

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R8–ES–2011–0085*; Division of* Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We will post all comments on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

**FOR FURTHER INFORMATION CONTACT:** For general information, and information about the proposed designation in Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, and Los Angeles Counties, contact Diane K. Noda, Field Supervisor, U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, 2493 Portola Road, Suite B, Ventura, CA 93003; telephone 805–644–1766; facsimile 805–644–3958.

For information about the proposed designation in Del Norte, Humboldt, and Mendocino Counties, contact Nancy Finley, Field Supervisor, Arcata Fish and Wildlife Office, 1655 Heindon Road, Arcata, CA 95521 (telephone 707–822–7201; facsimile 707–822–8411).

For information about the proposed designation in Sonoma, Marin, and San Mateo Counties, contact Susan Moore, Field Supervisor, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W–2605, Sacramento, CA 95825 (telephone 916–414–6600; facsimile 916–414–6712).

For information about the proposed designation in Orange and San Diego Counties, contact Jim Bartel, Field Supervisor, Carlsbad Fish and Wildlife Service Office, 6010 Hidden Valley Road, Suite 101, Carlsbad, CA 92011 (telephone 760–431–9440; facsimile 760–431–5901).

If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

**SUPPLEMENTARY INFORMATION:**

### Public Comments

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available, and be as accurate and as effective as possible. Therefore, we request comments or information from other concerned government agencies, the scientific community, industry, or any other interested party concerning this proposed revised rule. We particularly seek comments concerning:

(1) The reasons why we should or should not designate habitat as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 *et seq.*), including whether there are threats to the species from human activity, the degree of which can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation such that the designation of critical habitat may not be prudent.

(2) Specific information on:

(a) The amount and distribution of tidewater goby habitat;

(b) Which areas that are within the geographical area occupied at the time of listing (or are currently occupied) contain features essential to the conservation of the species, should be included in the designation and why;

(c) Special management considerations or protection that may be needed for the physical or biological features essential to the conservation of the species in areas we are proposing, including managing for the potential effects of climate change; and

(d) What areas outside the geographical area occupied at the time of listing that should be included in the designation because they are essential for the conservation of the species and why.

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

(4) Information on the projected and reasonably likely impacts of climate change on the tidewater goby, the features essential to its conservation and the areas proposed as critical habitat.

(5) Any probable economic, national security, environmental, cultural, or other relevant impacts of designating any area that may be included in the final designation; in particular, any impacts on small entities, and the benefits of including or excluding areas that exhibit these impacts.

(6) Any information on potential threats to habitat and the feasibility of reintroduction or introduction of the tidewater goby to: Walker Creek, Bolinas Lagoon, Pomponio Creek, Waddell Creek, Salinas River, Arroyo del Cruz, Oso Flaco Lake, Arroyo Sequit, Zuma Creek, Aliso Creek, or any other areas identified for reintroduction or introduction in the recovery plan for the tidewater goby (Service 2005), and the reasons why we should or should not designate these or other unoccupied areas as critical habitat for the tidewater goby.

(7) Specifically with reference to those State Park lands under the jurisdiction of the California Department of Parks and Recreation (CDPR) that are proposed for designation, information on any areas covered by conservation or management plans that we should consider for exclusion from the designation under section 4(b)(2) of the Act.

(8) Any additional proposed critical habitat areas covered by conservation or management plans that we should consider for exclusion from the designation under section 4(b)(2) of the Act. We specifically request any information on any operative or draft habitat conservation plans for the tidewater goby that have been prepared under section 10(a)(1)(B) of the Act, or any other management or other conservation plan or agreement that benefits the tidewater goby or its primary constituent elements.

(9) Any information concerning tribal lands or trust resources that may be

impacted by this proposed revision to critical habitat.

(10) Whether our exemption under section 4(a)(3)(B) of the Act of Department of Defense land at Vandenberg Air Force Base (VAFB) in Santa Barbara County, and Marine Corps Base (MCB) Camp Pendleton in San Diego County, is or is not appropriate, and why.

(11) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We request that you send comments only by the methods described in the **ADDRESSES** section. We will post your entire comment—including your personal identifying information—on *http://www.regulations.gov.* You may request at the top of your document that we withhold personal information such as your street address, phone number, or email address from public review; however, we cannot guarantee that we will be able to do so.

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

## Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat for the tidewater goby in this proposed rule. This proposed rule incorporates new information on tidewater goby genetics and distribution that was not available when we completed our 2008 final critical habitat designation (73 FR 5920; January 31, 2008). A summary of topics that are relevant to this proposed critical habitat designation is provided below. For more information on tidewater goby taxonomy, biology, and ecology, please refer to: the final listing rule published in the **Federal Register** on February 4, 1994 (59 FR 5494); the first and second rules proposing critical habitat published in the **Federal Register** on August 3, 1999 (64 FR 42250) and November 28, 2006 (71 FR 68914), respectively; and the subsequent final critical habitat designations published in the **Federal Register** on November 20, 2000 (65 FR 69693) and January 31, 2008 (73 FR 5920). Additionally, more species information can be found in the Recovery Plan for the Tidewater Goby (Recovery Plan) (Service 2005), and in the Tidewater Goby 5-year review (Service 2007).

### *Species Description and Genetic/Morphological Characteristics*

The tidewater goby is a small, elongate, grey-brown fish rarely exceeding 2 inches (in) (5 centimeters (cm)) in length. This species possesses large pectoral fins, with the pelvic or ventral fins joined to each other beginning below the chest and belly and from below the gill cover back to just anterior of the anus. Male tidewater goby are nearly transparent with a mottled brown upper surface. Female tidewater goby develop darker colors, often black, on the body and dorsal and anal fins. Tidewater goby are short-lived species; the lifespan of most individuals appears to be about 1 year (Irwin and Soltz 1984, p. 26; Swift *et al.* 1989, p. 4; M. Hellmair, pers. comm. 2010).

Various genetic markers demonstrate that pronounced differences exist in the genetic structure of the tidewater goby, and that tidewater goby populations in some locations are genetically distinct. A study of mitochondrial DNA and cytochrome b (molecular material used in genetic studies) sequences from tidewater goby that were collected at 31 locations throughout the species' geographic range has identified six major phylogeographic units (Dawson *et al.* 2001, p. 1171). These six regional units are the basis for the recovery units in the Recovery Plan (Service 2005), and include the following areas: (1) Tillas Slough (Smith River) in Del Norte County to Lagoon Creek in Mendocino County (North Coast (NC) Unit); (2) Salmon Creek in Sonoma County to Bennett's Slough in Monterey County (Greater Bay (GB) Unit); (3) Arroyo del Oso to Morro Bay in San Luis Obispo County (Central Coast (CC) Unit); (4) San Luis Obispo Creek in San Luis Obispo County to Rincon Creek in Santa Barbara County (Conception (CO) Unit); (5) Ventura River in Ventura County to Topanga Creek in Los Angeles County (Los Angeles-Ventura (LV) Unit); and (6) San Pedro Harbor in Los Angeles County to Los Peñasquitos Lagoon in San Diego County (South Coast (SC) Unit).

A more recent study to gather genetic distribution data for the tidewater goby used a panel of novel microsatellite loci (repeating sequences of DNA) assessed in a first-order (unbound strands of DNA) survey across its range (Earl *et al.* 2010, p. 104). More specifically, Earl *et al.* (2010, p. 103) described 19 taxon-specific microsatellite loci, and assessed genetic variation across the tidewater goby's range relative to genetic subdivision. The study concluded: (1) Populations of tidewater goby in northern San Diego County form a highly divergent clade (a genetically related group) with reduced genetic variation that appears to merit status as a separate species; (2) populations along the mid-coast of California are subdivided into regional groups, which are more similar to each other than different, contrary to conclusions from previous mitochondrial sequence-based studies (Dawson *et al.* 2001, p. 1176); and (3) that tidewater goby dispersal during the Pleistocene/Holocene sea-level rise (approximately 7,000 years ago), followed by increased isolation during the Holocene, formed a star phylogeny (recent population formed from a common ancestor) with geographic separation in the northernmost populations and some local differentiation (Earl *et al.* 2010, p. 103). Genetic diversity among populations within a species may be important to long-term persistence because it represents the raw material for adapting to differing local conditions and environmental stochasticity (Frankham 2005, p. 754).

The conclusion that the North Coast populations of the tidewater goby formed as a result of a single recent episode of colonization of newly formed habitats is supported by McCraney and Kinziger (2009, p. 30). They compared genetic variation of 13 naturally and artificially fragmented populations of the tidewater goby in northern California, including eight Humboldt Bay populations and five coastal lagoon populations, and reached similar conclusions to Earl *et al.* (2010, p. 113). McCraney *et al.* (2010, p. 3325) also concluded that natural and artificial habitat fragmentation caused marked divergence among the tidewater goby in the North Coast populations. Their study showed that Humboldt Bay populations, due to isolation by man-made barriers, exhibited very high levels of genetic differentiation between populations, extremely low levels of genetic diversity within populations, and no migration among populations. They concluded that this pattern makes the Humboldt Bay populations of tidewater goby vulnerable to extirpation (McCraney and Kinziger 2009, p. 37). In contrast, the study found that while coastal lagoon populations also exhibited very high levels of genetic differentiation between populations, these populations displayed substantial

levels of genetic diversity within populations indicating occasional migration among lagoons (McCraney and Kinziger 2009, p. 32). Populations in all coastal lagoons, with the exception of Lake Earl in Del Norte County, appear to be stable and genetically healthy (McCraney and Kinziger 2009, p. iii). The Lake Earl population exhibited reduced levels of genetic diversity in comparison to similar coastal lagoon populations (McCraney and Kinziger 2009, p. 34). The reduced genetic diversity detected within Lake Earl is likely due to repeated population bottlenecks (reduced genetic diversity due to reduced population size) resulting from regular artificial breaching of the lagoon mouth (McCraney and Kinziger 2009, p. 34).

The conclusions from these studies are:

(1) The tidewater goby exhibits considerable genetic diversity across its range.

(2) The species can be divided into six phylogeographic units based upon genetic similarities and differences.

(3) The tidewater goby to the south of the gap between Los Angeles and Orange Counties is probably a distinct species from populations to the north based on its divergent genetic makeup.

(4) Natural and anthropogenic barriers have contributed to genetic differentiation among populations.

(5) Although genetic differences occur between populations north of Los Angeles County, they are not as divergent as those populations found south of Los Angeles County.

*Metapopulation Dynamics*

Local populations of tidewater goby are best characterized as metapopulations (Lafferty *et al.* 1999a, p. 1448). A metapopulation is defined as a population made up of a group of subpopulations interconnected through patterns of gene flow, extinction, and recolonization, and at least somewhat geographically isolated from other populations (Meffe and Carrol 1994, p. 189). Local tidewater goby populations are frequently isolated from other local populations by extensive areas of unsuitable habitat. They occupy coastal lagoons and estuaries that in most cases are separated by the open ocean. Very few tidewater goby have ever been captured in the marine environment (Swift *et al.* 1989, p. 7), which suggests that this species rarely occurs in the open ocean. Studies of the tidewater goby suggest that some populations persist on a consistent basis, while other populations appear to experience intermittent extirpations (local extinctions) (Lafferty *et al.* 1999a, p. 1452). These extirpations may result from one or a series of factors, such as the drying up of some small streams during prolonged droughts (Lafferty *et al.* 1999a, p. 1451). Some of the areas where the tidewater goby has been extirpated apparently have been recolonized by nearby (within 6 miles (mi) (10 kilometers (km))) populations (Lafferty *et al.* 1999a, p. 1451). These recolonization events suggest that tidewater goby populations exhibit a metapopulation dynamic where some populations survive or remain viable by continually exchanging individuals and recolonizations after occasional extirpations (Doak and Mills 1994, p. 619).

Lafferty *et al.* (1999b, p. 618) monitored the post-flood persistence of several tidewater goby populations in Santa Barbara and Los Angeles Counties after the heavy winter floods of 1995. All of the monitored populations persisted after the floods, and no significant changes in population sizes were noted (Lafferty *et al.* 1999b, p. 621). However, tidewater goby apparently colonized Cañada Honda in Santa Barbara County after one flood event (Lafferty *et al.* 1999b, p. 621). This suggests that flooding may sometimes have a positive effect by contributing to recolonization of habitats where a tidewater goby population has become extirpated.

The largest wetland habitats where the tidewater goby has been known to occur are not necessarily the most secure, as evidenced by the fact that the Santa Margarita River in San Diego County and the San Francisco Bay have lost their populations of tidewater goby. Today, the most stable locations with the largest tidewater goby populations consist of lagoons and estuaries of intermediate sizes (5 to 125 ac (2 to 50 ha)) that have remained relatively unaffected by human activities (Service 2005, p. 12). Many of the locations where tidewater goby are consistently present are likely to be ''source'' populations, which probably provide the colonists for locations where tidewater goby are intermittently extirpated.

Historical records and survey results for several areas occupied by tidewater goby are available (Swift *et al.* 1989, pp. 18–19; Swift *et al.* 1994, pp. 8–16). These documents suggest that the persistence of tidewater goby populations is related to habitat size, configuration, location, and proximity to human development. In general, the most stable and persistent tidewater goby populations occur in lagoons and estuaries that are more than 2.47 ac (1 ha) in size, and that have remained relatively unaffected by human activities (Lafferty *et al.* 1999a, pp. 1450–1453). We note, however, that some systems that are affected or altered by human activities also have relatively large and stable populations, for example, Humboldt Bay in Humboldt County, Pismo Creek in San Luis Obispo County, Santa Ynez River in Santa Barbara County, and the Santa Clara River in Ventura County. Also, some habitats less than 2.47 ac (1 ha) in size have tidewater goby populations that persist on a regular basis, such as Cañada del Agua Caliente in Santa Barbara County (Swift *et al.* 1997, p. 3). The best available information suggests that the lagoons and estuaries with persistent tidewater goby populations are likely the source of core populations that provide individuals that colonize adjacent smaller locations with intermittent populations (Lafferty *et al.* 1999a, p. 1452).

*Distribution*

The known geographic range of the tidewater goby is limited to the coast of California (Eschmeyer *et al.* 1983, p. 262; Swift *et al.* 1989, p. 12). The species historically occurred from locations 3 mi (5 km) south of the California-Oregon border (Tillas Slough in Del Norte County) to 44 mi (71 km) north of the United States-Mexico border (Agua Hedionda Lagoon in San Diego County). The available documentation (e.g., Eschmeyer *et al.* 1983, p. 262; Swift *et al.* 1989, p. 12) suggests that the northernmost extent of the current geographic range has not changed over time. Tidewater goby historically occurred in Agua Hedionda Lagoon, but do not currently. The species' southernmost known currently occupied locality is the San Luis Rey River, 5 mi (8 km) north of Agua Hedionda Lagoon. Although the northernmost and southernmost extent of the tidewater goby's range has not changed, its overall distribution has become patchy and fragmented along the coast.

The tidewater goby appears to be naturally absent from several long (50 to 135 mi (80 to 217 km)) stretches of coastline lacking lagoons or estuaries, where steep topography or swift currents may prevent the tidewater goby from dispersing between adjacent locations (Swift *et al.* 1989, p. 13; Earl *et al.* 2010, p. 104). One such gap occurs between the Eel River in Humboldt County and the Ten Mile River in Mendocino County. A second gap exists between Davis Lake in Mendocino County and Salmon Creek in Sonoma County. Another large natural gap

occurs between the Salinas River in Monterey County and Arroyo del Oso in San Luis Obispo County. Habitat loss and other anthropogenic-related factors have resulted in the tidewater goby's absence from several locations where it historically occurred; their recent disappearance from some of these locations has created additional gaps in the species' geographic distribution (Capelli 1997, p. 7). Such locations include San Francisco Bay in San Francisco and Alameda Counties, and Redwood Creek and Freshwater Lagoon in Humboldt County.

Swift *et al.* (1989, p. 13) reported that, as of 1984, tidewater goby occurred or had been known to occur at 87 locations, including those at the extreme northern and southern end of the species' historical geographic range. An assessment of the species' distribution in 1993, using records that were limited to the area between the Monterey Peninsula in Monterey County and the United States-Mexico border, found the tidewater goby occurring at four additional sites since 1984 (Swift *et al.* 1993, p. 129). Other locations have been identified since 1993, and to date the tidewater goby has been documented at 135 locations within its historical range. Of these 135 locations, 23 (17 percent) are no longer occupied by the tidewater goby. Therefore, 112 locations are currently occupied (Service 2005, p. 6).

*Habitat*

The lagoons, estuaries, backwater marshes, and freshwater tributaries that tidewater goby occupy are dynamic environments subject to considerable fluctuations on a seasonal and annual basis. Typically, a sandbar forms in the late spring as flow into a lagoon declines enough to allow the ocean surf to build up sand at the mouth of the lagoon. Winter rains and increased stream flows may bring in considerable sediment and dramatically affect the bottom profile and substrate composition of a lagoon or estuary. Fine mud and clay either move through the lagoon or estuary, or settle out in the backwater marshes, while heavier sand is left behind. High flows associated with winter rains can scour out the lagoon bottom to a lower level, especially after breaching the mouth sandbar, with sand building up again after flows decline. These dynamic processes result in wetland habitats that, over time, move both up or down coast, and inland or coastward.

The horizontal extent of the lentic (pond-like) wetland habitat associated with a particular tidewater goby locality varies, and is affected in part, by local precipitation patterns and topography. In coastal areas where the topography is steep and precipitation relatively low, such as areas adjacent to the Santa Ynez Mountains in Santa Barbara County, the habitats occupied by tidewater goby may be a few acres in size, only extend a few hundred feet inland from the ocean, with backwater marshes small or absent. In other coastal settings where topography is less steep and precipitation is more abundant, surface streams are larger, coastal lagoons or estuaries may be hundreds of acres in size and extend many miles inland, and may include extensive backwater marshes (Lake Earl in Del Norte County and Ten Mile River in Mendocino County). Some locations occupied by the tidewater goby, for example, Bennett's Slough in Monterey County, receive water from upstream areas on a year-round basis. Such locations tend to possess wetland habitats that are larger and can extend inland for several miles. Other occupied locations do not possess stream channels or tributaries that provide a considerable amount of water throughout the summer or fall months. Such locations, such as Little Pico Creek in San Luis Obispo County, tend to possess wetland habitats that extend only a short distance inland.

*Reproduction*

The tidewater goby has been observed to spawn in every month of the year except December (Swenson 1999, p. 107). Reproduction tends to peak in late April or May to July, and can continue into November depending on seasonal temperature and rainfall. Swenson (1995, p. 31) has documented the spawning activities of adult fish or the presence of egg clutches at water temperatures between 48 and 77 degrees Fahrenheit (F) (9 and 25 degrees Celsius (C)). Spawning tidewater goby have been observed in water salinities between 2 and 27 parts per thousand (ppt) (Swenson 1999, p. 31).

*Threats*

The final listing rule for the tidewater goby published in 1994 (59 FR 5494; February 4, 1994) and the 5-year review (Service 2007) states that this species is threatened, or potentially threatened, by: (1) Coastal development projects that result in the loss or alteration of coastal wetland habitat; (2) water diversions and alterations of water flows upstream of coastal lagoons and estuaries that negatively impact the species' breeding and foraging activities; (3) groundwater overdrafting; (4) channelization of the rivers where the species occurs; (5) discharge of agricultural and sewage effluents; (6) cattle grazing and feral pig activity that results in increased sedimentation of coastal lagoons and riparian habitats, removal of vegetative cover, increased ambient water temperatures, and elimination of plunge pools and undercut banks utilized by the tidewater goby; (7) introduced species that prey on the tidewater goby (e.g., bass (*Micropterus* spp.) and crayfish (*Cambaris* spp.)); (8) inadequacy of existing regulatory mechanisms; (9) drought conditions that result in the deterioration of coastal and riparian habitats; and (10) competition with introduced species, such as the yellowfin goby (*Acanthogobius flavimanus*) and chameleon goby (*Tridentiger trigonocephalus*).

*Previous Federal Actions*

On April 15, 2009, Natural Resources Defense Council (NRDC) filed a lawsuit in the U.S. District Court for the Northern District of California challenging a portion of the January 31, 2008, final rule that designated 44 critical habitat units in Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties, California (73 FR 5920, January 31, 2008). In a consent decree dated December 11, 2009, the U.S. District Court: (1) Stated that the 44 critical habitat units should remain in effect, (2) stated that the final rule designating critical habitat was remanded in its entirety for reconsideration, and (3) directed the Service to promulgate a revised critical habitat rule that considers the entire geographic range of the tidewater goby and any currently unoccupied tidewater goby habitat. The consent decree requires that the Service submit proposed and final revised rules to the **Federal Register** no later than October 7, 2011, and November 27, 2012, respectively. For additional information on previous Federal actions please refer to the 1994 listing rule (59 FR 5494; February 4, 1994), and previous critical habitat designation (73 FR 5920; January 31, 2008).

**Critical Habitat**

*Background*

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

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the 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 to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to 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, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of 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 non-Federal landowners. Where a landowner seeks or requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner 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 or biological features which are essential to the conservation of the species and which may require special management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat), focusing on the principal biological or physical constituent elements (primary constituent elements (PCEs)) within an area that are essential to the conservation of the species (such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type). Primary constituent elements are the elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Under the Act, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. We designate critical habitat in areas outside the geographical area occupied by a species only when a designation limited to its range would be inadequate to ensure the conservation of the species. When the best available scientific data do not demonstrate that the conservation needs of the species require such additional areas, we will not designate critical habitat in areas outside the geographical area occupied by the species. An area currently occupied by the species but that was outside the geographical area occupied by the species at the time of listing may, however, be essential for the conservation of the species and may be included in the critical habitat designation.

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

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

Habitat is dynamic, and species (or habitats) may naturally shift within an area, or from one area to another, over time. Climate change will be a particular challenge for biodiversity because the addition of stressors associated with climate change to current stressors may push species beyond their ability to survive (Lovejoy and Hannah 2005, pp. 325–326). The synergistic implications of climate change and habitat fragmentation are the most threatening facet of climate change for biodiversity (Lovejoy and Hannah 2005, p. 4), because species may not be able to migrate with shifting habitats. Current climate change predictions for terrestrial areas in the Northern Hemisphere generally indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying, although predictions vary for any given specific location (Field *et al.* 1999, pp. 1–3; Hayhoe *et al.* 2004, p. 12422; Cayan *et al.* 2005, p. 6; Intergovernmental Panel on Climate Change (IPCC) 2007, p. 11; Cayan *et al.* 2009, p. xi). Climate change may lead to increased frequency and duration of severe storms and droughts (McLaughlin *et al.* 2002, p. 6074; Cook *et al.* 2004, p. 1015; Golladay *et al.* 2004, p. 504).

Furthermore, these predictions also point to a future of warmer oceans and melting glaciers and icecaps, all of which are expected to raise mean sea levels, leading to the inundation and displacement of many estuaries and lagoons. A rise in sea level will most dramatically affect those estuaries that have been confined by surrounding development that prohibits their boundaries from naturally shifting in response to inundation. Projections for sea-level rise by the year 2100 vary from 0.59 to 6.2 ft (0.18 to 1.9 m) (Raper and Braithwaite 2006, p. 311, IPCC 2007, p. 11; Rahmstorf 2007, p. 368; Herberger *et al.* 2009, p. 8; Vermeer and Rahmstorf 2009, p. 21530). Paleoclimatic data suggest that the rate of future melting of the Greenland and Antarctic ice sheets and related sea level rise could be faster than currently projected (Overpeck *et al.* 2006, p. 1747). Park *et al.* (1989, pp. 1–52) projected that of the salt marshes along the coast of the contiguous United

States, 30 percent would be lost with a 1.6-ft (0.5-m) sea level rise, 46 percent with a 3.3-ft (1-m) sea level rise, 52 percent with a 6.6-ft (2-m) sea level rise, and 65 percent with a 9.8-ft (3-m) sea level rise.

We cannot project directly to California the percentage of salt marsh habitat that would be lost based upon the estimates of Park *et al.* (1989, p. 1–52), who focused on the east coast and Gulf coast of the United States; however, we can anticipate that with a projected sea level rise of up to almost 6.6 ft (2 m), much of the marshlands and estuaries in the state will be lost by 2100. In addition to the inundation and displacement of estuaries/lagoons, there would be shifts in the quality of the habitats in affected coastal regions. Prior to being inundated, coastal watersheds would become saline due to saltwater intrusion into the surface and groundwater. However, predictions of climatic conditions for smaller sub-regions, such as California, remain less certain. The full effects of these changes on aquatic organisms, such as the tidewater goby, are not well known. Thus, the information currently available on the effects of global climate change is not sufficiently precise to determine what additional areas, if any, may be appropriate to include in the revised critical habitat for this species to address the effects of climate change.

Additionally, we recognize that critical habitat designated at a particular point in time may not include all of the 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 tidewater goby, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure that their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) the prohibitions of section 9 of the Act if actions occurring in these areas may result in take of the species. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. 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 new information available at the time of these planning efforts calls for a different outcome.

*Physical or Biological Features*

In accordance with section 3(5)(A)(i) and 4(b)(1)(A) of the Act and 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 or biological features essential to the conservation of the species and 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, or rearing (or development) of offspring; and

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

We derive the specific physical or biological features required for tidewater goby from studies of this species' habitat, ecology, and life history as described below. Additional information can be found in the final listing rule published in the **Federal Register** on February 4, 1994 (59 FR 5494), the Tidewater Goby 5-Year Review (Service 2007), and the Recovery Plan (Service 2005). Based on our current knowledge of the life history, biology, ecology, and the habitat requirements of the species, we have determined that the tidewater goby requires the following physical or biological features:

*Space for Individual and Population Growth and for Normal Behavior*

Saline Aquatic Habitat

The tidewater goby occurs in lagoons, estuaries, and backwater marshes that are adjacent to the Pacific Ocean (Wang 1982, p. 14; Irwin and Soltz 1984, p. 27; Swift *et al.* 1989, p. 1; Swenson 1993, p. 3; Moyle 2002, p. 431). The tidewater goby is most commonly found in waters with relatively low salinities (less than 10 to 12 parts per thousand (ppt)) (Swift *et al.* 1989, p. 7). This species can, however, tolerate a wide range of salinities, and is frequently found in coastal habitats with higher salinity levels (Swift *et al.* 1989, p. 7; Worcester 1992, p. 106; Swift *et al.* 1997, pp. 15–22); it has been collected in salinities as high as 42 ppt by Swift *et al.* (1989, p. 7) and at 63 ppt in McDaniel Slough, Arcata Bay, Humboldt County (G. Goldsmith pers. comm. 2011). The species' tolerance of high salinities likely enables it to withstand some exposure to the marine environment, allowing it to recolonize nearby lagoons and estuaries following flood events. However, tidewater goby have only rarely been captured in the marine environment (Swift *et al.* 1989, p. 7), and they appear to enter the ocean only when flushed out of lagoons, estuaries, and river mouths by storm events or human-caused breaches of sand bars.

Freshwater Habitat

The tidewater goby also occurs in freshwater streams up-gradient and tributary to brackish habitats; the salinity of these freshwater streams is typically less than 0.5 ppt. The available documentation demonstrates that, in some areas, tidewater goby can occur 1.6 to 7.3 mi (2.6 to 11.7 km) upstream from the ocean environment (Irwin and Soltz 1984, p. 27; Swift *et al.* 1997, p. 20; Chamberlain and Goldsmith 2006, p. 1). Within a 2-hour period, hundreds of tidewater goby have been observed to move upstream of a fixed location into areas in the Santa Ynez River 3.2 mi (5.1 km) from the ocean in Santa Barbara County (Swift *et al.* 1997, p. 20). The fact that this many individuals were observed to move through an area suggests that freshwater tributaries in some riverine systems provide important habitat for individual and population growth.

We have reviewed a variety of documents to determine how far tidewater goby have been detected upstream from the ocean. Chamberlain and Goldsmith (2006, p. 1) found tidewater goby 1.6 to 2.0 mi (2.6 to 3.3 km) upstream from the ocean in the Ten Mile River in Mendocino County, Swift *et al.* (1997, p. 18) found tidewater goby 4.6 mi (7.3 km) upstream from the ocean in the San Antonio River in Santa Barbara County, Swift *et al.* (1997, p. 20) found tidewater goby at various distances from 3.9 to 7.3 mi (6.2 to 11.7 km) upstream from the ocean in the Santa Ynez River in Santa Barbara County, and Holland (1992, p. 9) found tidewater goby 3 mi (5 km) upstream from the ocean in the Santa Margarita River in San Diego County. Collectively, these data suggest the average distance tidewater goby have been detected

upstream from the ocean in medium to large rivers is approximately 3.8 mi (6.1 km). Other than a high stream gradient, the reasons for the variation in upstream movement between one locality and another have not been determined; salinity could be an important factor. Upstream salinity levels may vary with time of year, tidal cycles, storm events, and topography. However, Swift *et al.* (1997, p. 26) indicate that stream gradient and lack of barriers (e.g., beaver dams, sills) are more important factors than salinity to upstream dispersal.

Sandbars

Many of the locations occupied by the tidewater goby closely correspond to stream drainages. Under natural conditions these stream drainages and the marine environment collectively act to produce sandbars that form a barrier between the ocean and the lagoon, estuary, backwater marsh, and freshwater stream system (Habel and Armstrong 1977, p. 39). These sandbars tend to be present during the late spring, summer, and fall seasons. The presence of a sandbar can create a lower salinity level (5 to 10 ppt) in the area inshore from the sandbar (Carpelan 1967, p. 324) than would otherwise exist if there were no sandbar. The tidewater goby is more commonly associated with these lower salinity levels than with the salinity levels that occur in the ocean or an estuary without a sandbar (about 35 ppt). The formation of a sandbar also creates more habitat for aquatic organisms because water becomes ponded behind the sandbar. Artificial breaching of a sandbar tends to result in a rapid decrease in water levels, and increases the likelihood that adult tidewater goby, their nests, and their fry could become stranded and die, or become concentrated and subject to greater levels of predation pressure by birds or other predators.

In Humboldt Bay and the Eel River estuary in Humboldt County, a large amount of salt and brackish marsh habitat was eliminated through the construction of levees and drainage channels. As a result, several of the locations occupied by tidewater goby do not contain natural sandbars between the ocean and habitat where the species is present. Instead, manmade water control structures such as tidegates and culverts, exist between tidal waters and the locations where tidewater goby occur. These tidegates have been in place for decades, and in some cases they provide habitat conditions similar to those created by the presence of a seasonal sandbar. In fact, most of the occupied tidewater goby habitat in the Humboldt Bay-Eel River estuaries are above tidegates.

Therefore, lagoons and estuaries with relatively low salinities for suitable breeding conditions, upstream freshwater habitat for refuge, and sandbars, which creates larger areas of suitable habitat with lower salinities, are essential to the conservation of the species.

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

Diet

The tidewater goby feeds mainly on macroinvertebrates such as mysid shrimp, gammarid amphipods, ostracods, and aquatic insects such as chironomid midge larvae (Irwin and Soltz 1984, pp. 21–23; Swift *et al.* 1989, p. 6; Swenson 1995, p. 87). The diets of adult and juvenile tidewater goby tend to include the same relative abundance of different invertebrate species (Swenson and McCray 1996, p. 962).

Water Depth, Velocity, and Temperature

The tidewater goby is most commonly collected in water less than 6 feet (ft) (2 meters (m)) deep (Wang 1982, pp. 4–5; Worchester 1992, p. 53). However, tidewater goby were recently collected in Big Lagoon in Humboldt County during the breeding season at a water depth of 15 ft (4.6 m) (Goldsmith 2006a, p. 1). Whether use of these deeper waters is confined to this locality or is more widespread will require additional sampling at various depths and locations. The tidewater goby tends to avoid currents and concentrate in slack-water areas; this suggests they are less likely to occur in areas with a steep gradient or microhabitats with a substantial current. At Pescadero Creek in San Mateo County, tidewater goby were absent from portions of the flowing creek that had a surface velocity of 0.15 m per second (0.49 ft per second), and were instead more densely concentrated in nearby eddies with lower water velocities (Swenson 1993, p. 3).

Backwater marshes, including lateral sloughs, are likely to be important to the tidewater goby for multiple reasons. Flood waters with increased water velocities can have a negative effect on the tidewater goby (Irwin and Soltz 1984, p. 27), and backwater marshes may provide important refuges that reduce the likelihood that tidewater goby will be flushed out of the lagoons or estuaries and into the marine environment during heavy winter floods (Lafferty *et al.* 1999a, p. 619). Evidence that increased flows can eliminate tidewater goby from a locality is suggested by the extirpation of tidewater goby from Waddell Creek in Santa Cruz County following a flood event in the winter of 1972–73 (Nelson as cited in Swift 1990, p. 2); this creek had been channelized and no longer afforded protection from high flows during flood events. Likewise, the channelization and elimination of habitat lateral to the main stream channel upstream of San Onofre Lagoon in San Diego County probably led to the flushing and extirpation of tidewater goby from this locality during a storm in 1993 (Swift *et al.* 1994, pp. 22–23). The importance of backwater marshes is also highlighted by the fact that tidewater goby in these habitats can achieve a greater size than in adjacent lagoons and creeks (Swenson 1993, pp. 6–7).

Therefore, lagoons and estuaries with a variety of aquatic macroinvertebrates providing food for tidewater goby as well as backwater marshes, including lateral sloughs, which are used as refuge during storm events and sandbar breaches, are essential to the conservation of the species.

*Cover or Shelter*

A variety of native and nonnative fish species and fish-eating bird species, such as egrets (*Egretta* spp.) and herons (e.g., great blue herons (*Ardea herodias*)), prey on tidewater goby. A species' ability to persist when it is subject to predation pressure frequently depends on the presence of escape cover or shelter, heterogeneous features that provide a greater level of structure to make it more likely to avoid predation (Crowder and Cooper 1982, p. 1802; Gilinsky 1984, p. 455). At locations where the tidewater goby occurs, submerged and emergent aquatic vegetation can create habitat heterogeneity and structure to provide a greater degree of cover from predators than would exist without it. Stable lagoons often possess dense aquatic vegetation, including sago pondweed (*Potamogeton pectinatus*) or widgeon grass (e.g., *Ruppia maritima* and *R. cirrhosa*). At some locations, juvenile tidewater goby are more prevalent in areas with at least some submergent vegetation compared to areas with little or no vegetation (Wang 1984, p. 16; Swenson 1994, p. 6; Trihey & Associates, Inc. 1996, p. 11). The presence of submerged or emergent vegetation appears to reduce the likelihood that tidewater goby will be preyed upon. Aquatic vegetation also may provide some degree of shelter or refuge during flash flood events (Lafferty *et al.* 1999b, p. 621) by lowering water velocity compared to unvegetated areas. Such refuges would

be especially important to fish species, such as tidewater goby, that are not strong swimmers. Therefore, lagoons and estuaries with submerged and emerged vegetation, which provide protection from predators and provide refuge during flood events, are essential to the conservation of the species.

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

The eggs of the tidewater goby are laid in burrows excavated by male fish. Burrows most commonly occur in areas with relatively unconsolidated, clean, coarse sand (Swift *et al.* 1989, p. 8), and in silt or mud (Wang 1982, p. 6). Swenson (1995, p. 148) demonstrated that tidewater goby prefer a sandy substrate in the laboratory. Male tidewater goby remain in the burrow to guard the eggs attached to the burrow ceiling and walls, and care for the embryos for approximately 9 to 11 days until they hatch. They rarely, if ever, emerge from the burrow to feed (Swift *et al.* 1989, p. 4). The tidewater goby larvae occupy the water column after the eggs hatch (Wang 1982, p. 15), then move to the bottom substrate as they mature. Worcester (1992, pp. 77–79) found that larval tidewater goby in Pico Creek Lagoon in San Luis Obispo County tended to use the deeper portion of the lagoon at a depth of 29 in (73 cm), which is considerably deeper than the depth level of 17 in (42 cm) where they were not detected. Therefore, lagoons and estuaries with relatively unconsolidated, clean, coarse sand, and silt or mud, which provide for breeding, are essential to the conservation of the species.

*Habitats Protected From Disturbance or Representative of the Historical, Geographical, and Ecological Distributions of the Species*

The majority of lagoons, estuaries, and coastal streams that currently support the tidewater goby have experienced some level of disturbance. These range in size from approximately 31.5 square feet (3 $m^2$) of surface area to about 2,000 acres (ac) (800 hectares (ha)). Most lagoons and estuaries that support tidewater goby range from about 1.25 to 12.5 ac (0.5 to 5 ha). Surveys of tidewater goby locations and historic records indicate that size, configuration, location, and access by humans are all factors in the persistence of populations of this species (Swift *et al.* 1989, p. 15; Swift *et al.* 1994, pp. 26–27). Lagoons and estuaries smaller than about 5 ac (2 ha) generally exhibit patterns of extirpation or population reduction and subsequent recolonization to very low levels. Many of the records for smaller locations, less than about 1 ac (0.4 ha), include one or a few large individuals with no evidence of reproduction. These small locations are also often within a mile or so of another locality from which recolonization could occur following catastrophic events, such as drought or artificial breaching of the lagoon.

The largest locations are not necessarily the most secure, such as the San Francisco Bay or the Santa Margarita River, which have lost their populations of tidewater goby. However, an exception is Lake Tolowa, Del Norte County, which is several thousand acres in size and has had a continuous presence of tidewater goby. The most stable or largest populations today are in locations of intermediate sizes, which range from 5 to 125 ac (2 to 50 ha). In many cases, the tidewater goby populations in these intermediate sized locations likely serve as source populations for the smaller ephemeral sites (Lafferty *et al.* 1999b, p. 1452). Therefore, lagoons and estuaries that range in size from small to large are important for maintaining the metapopulation dynamics and are essential to the conservation of the species.

Primary Constituent Elements for Tidewater Goby

Under the Act and its implementing regulations, we are required to identify the physical or biological features essential to the conservation of tidewater goby in areas within the geographical area occupied by the species at the time of listing, focusing on the features' primary constituent elements. We consider primary constituent elements to be the elements of the physical or biological features that provide for a species' life-history processes and, under the appropriate circumstances, are essential to the conservation of the species.

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine that the primary constituent element (and its components) specific to tidewater goby are:

(1) Persistent, shallow (in the range of approximately 0.3 to 6.6 ft (0.1 to 2 m)), still-to-slow-moving, lagoons, estuaries, and coastal streams ranging in salinity from 0.5 ppt to about 12 ppt, which provides adequate space for normal behavior and individual and population growth that contain:

(a) Substrates (e.g., sand, silt, mud) suitable for the construction of burrows for reproduction;

(b) Submerged and emergent aquatic vegetation, such as *Potamogeton pectinatus, Ruppia maritima, Typha latifolia,* and *Scirpus* spp., that provides protection from predators and high flow events; or

(c) Presence of a sandbar(s) across the mouth of a lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, thereby providing relatively stable water levels and salinity.

*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 features which are essential to the conservation of the species and which may require special management considerations or protection. Special management considerations or protection may be necessary to eliminate or reduce the magnitude of threats that affect the tidewater goby. Threats identified in the final listing rule for the tidewater goby include: (1) Coastal development projects that result in the loss or alteration of coastal wetland habitat; (2) water diversions and alterations of water flows upstream of coastal lagoons and estuaries that negatively impact the species' breeding and foraging habitat and activities; (3) groundwater overdrafting that results in reduction of flows and negatively impacts the species' breeding and foraging habitat and activities; (4) channelization of habitats where the species occurs that removes or reduces quality of habitat; (5) discharge of agricultural and sewage effluents; (6) cattle grazing and feral pig activity that result in increased sedimentation of coastal lagoons and riparian habitats, remove vegetative cover, increase ambient water temperatures, and eliminate plunge pools and collapsed undercut banks utilized by the tidewater goby; (7) introduced species that prey on the tidewater goby (e.g., bass, crayfish); (8) the inadequacy of existing regulatory mechanisms; (9) drought conditions that result in the deterioration of coastal and riparian habitats; and (10) competition with introduced species, such as the yellowfin goby and chameleon goby.

For the purposes of this proposed rule, we have combined the ''water diversions and alterations of water flows upstream of coastal lagoons and estuaries that negatively impact the species' breeding and foraging activities'' threats category with ''drought conditions'' and ''groundwater overdrafting,'' along with the addition of

artificial breaching of sandbars, into one threat category, *i.e.,* ''water diversions, alterations of water flows, artificial sandbar breaching, and groundwater overdrafting that negatively impact the species' breeding and foraging activities.'' Similarly, we have combined the two threat categories of ''introduced species that prey on the tidewater goby (e.g., bass, crayfish)'' and ''competition with introduced species such as the yellowfin goby and chameleon goby'' into one category, *i.e.,* ''introduced species that prey on, or compete with, the tidewater goby (e.g., yellowfin goby, bass, and crayfish).'' Where special management may be necessary, regulatory mechanisms may need to be added or amended by local, State, or Federal governmental entities if sufficient management is not achievable through voluntary mechanisms.

The tidewater goby exhibits a pattern of occupancy and extirpation throughout its range. The species requires refugia under drought conditions and places to recolonize under wetter conditions; otherwise, the tidewater goby would be relegated to existing only within those few lagoons and estuaries large enough to support it during periods of drought. If the suitable localities that are occupied during periods of normal precipitation cease to function as tidewater goby habitat due to modification or destruction while the localities are unoccupied, the metapopulation dynamics may be disrupted and the species may not be able to respond by recolonizing unoccupied localities under favorable conditions. A more detailed discussion of threats to the tidewater goby can be found in the final listing rule (59 FR 5494, March 7, 1994), and the final Recovery Plan (Service 2005, pp. 16–19).

We find that the components of the PCE present within all the areas we are proposing to designate as critical habitat may require special management considerations or protection due to threats to the tidewater goby or its habitat. Using current information provided in the Recovery Plan (Service 2005, Appendix E) and other information in our files, we have identified the components of the PCE that may require special management considerations or protection from known threats within each of the critical habitat units (see Critical Habitat Designation and Table 3 below for a unit-by-unit description). Some of the special management actions that may be needed for essential features of tidewater goby habitat are briefly summarized below.

(1) Implement measures to avoid, minimize or mitigate direct and indirect loss and adverse modification of tidewater goby habitat due to dredging, draining, and filling of lagoons and estuaries. Additional management actions should be taken to restore historic locations and potential habitats as opportunities become available to eliminate, minimize, or mitigate the effects of existing structures and past activities that have destroyed or degraded tidewater goby habitat.

(2) Measures should be developed and implemented to minimize the adverse effects due to channelization that can eliminate crucial backwater habitats or other flood refuges.

(3) Implement measures, such as best management practices, for managing excessive sedimentation in tidewater goby habitat within current or enhanced parameters. Measures should prevent further increase in sedimentation in tidewater goby habitat due to cattle grazing, development, channel modification, recreational activity, and agricultural practices.

(4) Implement measures to prevent further decrease in freshwater inflow, water depth, and surface area within tidewater goby habitat due to dams, water diversions and groundwater pumping.

(5) Implement measures to avoid anthropogenic breaching of lagoons, for example, use of pumping and other water control structures to regulate water levels, to provide conditions during the summer and fall, when reproduction is at its highest and freshwater inflow is at its lowest.

(6) Implement measures to prevent further degradation of water quality resulting from agricultural runoff and effluent, municipal run-off, golf course runoff, sewage treatment effluent, cattle grazing, development, oil spills, oil field runoff, toxic waste, and gray water dumping. Also, measures should be implemented to prevent further degradation of the water quality due to dikes, tidal gates, and other impedances to the natural freshwater/saltwater interface that alter the salinity regime in some of the tidewater goby habitats.

(7) Implement measures that prevent further increases in the abundance and distribution of nonnative species.

*Criteria Used To Identify Critical Habitat*

As required by section 4(b)(1)(A) of the Act, we use the best scientific and commercial data available to designate critical habitat. We review available information pertaining to the habitat requirements of the species. In accordance with the Act and its implementing regulation at 50 CFR 424.12(e), we consider whether designating additional areas—outside those currently occupied as well as those occupied at the time of listing—are necessary to ensure the conservation of the species. We are proposing to designate critical habitat in areas within the geographical area occupied by the species at the time of listing in 1994. We also are proposing to designate specific areas outside the geographical area occupied by the species at the time of listing that were historically occupied, but are presently unoccupied, because such areas are essential for the conservation of the species.

In proposing revised critical habitat for the tidewater goby, we made extensive use of the information in the Recovery Plan (Service 2005), and incorporated the recovery goals and strategy identified in the Recovery Plan in the development of our proposed revised designation. We also reviewed other relevant information, including peer-reviewed journal articles, unpublished reports and materials (e.g., survey results and expert opinions), the final listing rule (59 FR 5494; February 4, 1994), the 2000 final critical habitat rule (65 FR 69693; November 20, 2000), the 2006 proposed revised critical habitat rule (71 FR 68914; November 28, 2006), the 2008 final revised critical habitat rule (73 FR 5920; January 31, 2008), the 5-year review for the tidewater goby (Service 2007), and regional databases and GIS coverages, for example, California Natural Diversity Database, and National Wetlands Inventory maps. We analyzed this information to determine historical occupancy, occupancy at the time of listing, and current occupancy, and to develop criteria for identifying: (1) Specific areas within the geographical area occupied at the time of listing that contain the physical or biological features essential to the conservation of the tidewater goby and which may require special management considerations or protection, and (2) criteria for specific areas outside the geographical area occupied at the time of listing that are essential for the conservation of the tidewater goby.

The Recovery Plan focuses on preserving the diversity of tidewater goby habitats throughout the range of the species, preserving the natural processes of recolonization and population exchange (metapopulation dynamics) that enable recovery following catastrophic events, and preserving genetic diversity (Service 2005, p. 28). The conservation of the environmental, morphological, and genetic diversity across the range of the

species is an important consideration in determining specific areas on which are found the physical or biological features essential to the conservation of the species and other specific areas that are essential for the conservation of the tidewater goby. For example, a population's ability to successfully adapt to changing environmental conditions is a function of the population size, and genetic variation of the individuals at a given location (Reed and Frankham 2003, p. 233).

Local adaptations to different environmental conditions and morphological differences are likely linked to genetic variations among populations. These features may in turn be best protected by: (1) Identifying areas that represent the range of environmental, genetic, and morphological diversity; and (2) maximizing within these areas the protection of contiguous environmental gradients across which selection and migration can interact to maintain population viability and (adaptive) genetic diversity (Moritz 2002, p. 238). The Recovery Plan subdivides the geographical distribution of the tidewater goby into 6 recovery units, encompassing a total of 26 subunits defined according to genetic differentiation and geomorphology. We considered the conservation of the tidewater goby in each of the recovery units and subunits, as well as the species as a whole, in our analysis.

Based on the Recovery Plan, we developed the following conservation framework and criteria to identify the specific circumstances under which the presence of the components of the PCE within the geographical area occupied by the species at the time of listing provides the physical or biological features essential to the conservation of the tidewater goby, and thus delineates the specific areas that meet the definition of critical habitat:

(1) Areas that allow for the conservation of viable metapopulations (as defined in the Background section above) under varying environmental conditions, for example, drought. These areas include those that presumably support source populations (populations where local reproductive success is greater than local mortality (Meffe and Carroll 1994, p. 187)). For the purposes of this designation, we identified areas supporting source populations as those that are currently occupied and have been consistently occupied for three or more consecutive years based on survey data and published reports. We believe these source populations are more likely to be capable of maintaining populations over many years, and are therefore capable of providing individuals to recruit into surrounding subpopulations. We have also included other populations within each metapopulation in addition to source populations in the event that the source population is extirpated due to a catastrophic event such as a major flood or drought.

(2) Areas that provide connectivity between metapopulations. These areas are likely to act as ''stepping stones'' between more isolated populations, and thereby contribute to metapopulation persistence and genetic exchange. For the purposes of this designation, we identified locations that provide connectivity as those within 6 mi (10 km) of another occupied location.

We have determined that the specific areas within the geographical area occupied at the time of listing are not sufficient to meet the recovery goals for the species because:

(1) The Recovery Plan states that, to minimize the chance of local extirpations resulting in extinction of a broader metapopulation (see Background section) and resultant loss of its unique genetic traits, introduction and reintroduction of the tidewater goby into suitable habitat is necessary to recover the species (Service 2005, p. 29);

(2) There has been considerable loss and degradation of habitat throughout the species' range since the time of listing;

(3) We anticipate a further loss of habitat in the future due to sea-level rise resulting from climate change; and

(4) The species needs habitat areas that are arranged spatially in a way that will maintain connectivity and allow dispersal within and between units.

One example of the need to propose additional sites that are outside the geographical area occupied at the time of listing is where distances between areas occupied at the time of listing may make it difficult for tidewater goby to disperse from one area to the next. Another example is to help prevent the extirpation of a metapopulation in which only one or two occupied sites remain. These areas that are outside the geographical area occupied at the time of listing include locations that are currently occupied and, in a few cases, ones that were historically occupied. In some unoccupied areas proposed for introduction or reintroduction, habitat would require some restoration, for example, facilitation of a natural breaching regime, exotic predator management, or freshwater inflow enhancement. For areas outside the geographical area occupied at the time of listing, those meeting the criteria below are proposed for designation in this revised rule because they are essential for the conservation of the species:

(1) Areas of aquatic habitat in coastal lagoons and estuaries with still-to-slow moving water that allow for the conservation of viable metapopulations (as defined in the Background section above) under varying environmental conditions, for example, drought. Areas that are currently occupied may include those that presumably support source populations (e.g., Malibu Lagoon).

(2) Areas that provide connectivity between source populations or may provide connectivity in the future. These areas are likely to act as ''stepping stones'' between more isolated populations, and thereby contribute to metapopulation persistence and genetic exchange. For the purposes of this designation, we identified locations that provide connectivity as those within 6 mi (10 km) of another occupied location.

(3) Additional areas that may be more isolated but may represent unique adaptations to local features (habitat variability, hydrology, microclimate).

We did not propose to designate any unoccupied areas that are highly degraded or fragmented and not likely restorable. Such areas provide little or no long-term conservation value, and are not essential for the conservation of the species.

By applying these criteria to the 26 recovery subunits described in the Recovery Plan, we have identified 45 critical habitat units within the geographical area occupied by the species at the time of listing that we have determined contain the physical or biological features essential to the conservation of the tidewater goby, and 20 critical habitat units outside the geographical area occupied by the species at the time of listing that we have determined are essential for the conservation of the species. Please see Table 2, below, for the occupancy status of each of the 65 proposed critical habitat units.

Mapping

After determining the lagoons and estuaries necessary for the conservation of the tidewater goby by applying criteria outlined above, the boundaries of each critical habitat unit were mapped. Unit boundaries were based on several factors, including species occurrence data that demonstrated where tidewater goby have been observed, the presence of barriers and stream gradients that limit tidewater goby movements, and the presence and extent of the essential physical or biological features.

The geographic extent of each critical habitat unit was delineated, in part, using existing digital data. To determine the lateral boundaries of each critical habitat unit, we most frequently relied on the Pacific Institute global climate change model and National Wetland Inventory (NWI) maps that were prepared by the Service in 2006. The NWI maps are based on the Cowardin classification system (Cowardin *et al.* 1979, pp. 1–103). The Service has adopted this classification system as its official standard to describe wetland and deepwater habitats. Specifically, the following wetland types based on Cowardin (1979, p. 5) were used to delineate unit boundaries: Lake, Estuarine and Marine Deepwater, Estuarine and Marine Wetland, Freshwater Pond, Freshwater Emergent Wetland, Freshwater Forested/Shrub Wetland, and Riverine. These wetland types have, or are likely to have, components of the PCEs at various times throughout the year depending on the season and environmental factors, such as storm or drought events. In some cases, we used existing anthropogenic structures, such as concrete or riprap channel linings that occur within wetland habitat types, to delineate the lateral boundaries of units. To a lesser extent, we also used aerial imagery from the National Agricultural Imagery Program (NAIP) to delineate the lateral boundaries of a critical habitat unit where insufficient NWI data were available.

The precise location of tidewater goby habitat at a particular locality may vary on a daily, seasonal, and annual basis; the habitats occupied by tidewater goby exist in a dynamic environment that varies over time. For example, the size and lateral extent of a coastal lagoon or estuary varies with daily tide cycles. Flood events may also change the precise location where surface water exists within a given lagoon, estuary, backwater marsh, or freshwater tributary. Therefore, it is appropriate to delineate each critical habitat unit to encompass the entire area that may be occupied by tidewater goby on a daily, seasonal, and annual basis. This was accomplished by using the boundaries delineated on the NWI maps to determine the lateral extent of each unit.

The delineation of the farthest upstream extent of a particular critical habitat unit was determined using one of four features that include: (1) The average distance that tidewater goby are known to move upstream from the ocean (3.8 mi (6.1 km)), (2) the presence of barriers, such as culverts that may prevent tidewater goby from moving upstream, (3) the presence of a vertical drop, for example more than 4 to 8 in (10 to 20 cm) high, or steep gradient that precludes tidewater goby from swimming upstream or can act as a barrier that makes it less likely tidewater goby will be able to swim upstream (Swift *et al.* 1997, p. 20)), or (4) limited surface water in the tributary up-gradient from the lagoon or estuary. Each of the above features describes a barrier to upstream movement; therefore, the upstream extent of a particular unit was determined by whichever barrier was identified first through the mapping process regardless of whether or not components of the PCE were still present above it.

When determining revisions to critical habitat boundaries for this proposed rule, we made every effort to avoid developed areas, such as lands covered by buildings, pavement, and other structures, because such lands lack the physical or biological features for the tidewater goby. 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 revised critical habitat are excluded by text in this proposed rule. Therefore, if the critical habitat is finalized as proposed, 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 may affect the physical or biological features in the adjacent critical habitat.

We are proposing for designation of critical habitat lands that we have determined are within the geographical area occupied by the species at the time of listing and contain those physical or biological features necessary to support life-history processes essential to the conservation of the species, and lands outside of the geographical area occupied at the time of listing that we have determined are essential for the conservation of tidewater goby.

Units within the geographical area occupied at the time of listing are proposed for designation based on one or more components of the PCE being present to support tidewater goby life-history processes. Some units contain all of the identified elements of physical or biological features and support multiple life-history processes. Some units contain only some elements necessary to support the tidewater goby, but nevertheless provide the physical or biological features essential to the conservation of the species.

**Summary of Changes From Previously Designated Critical Habitat**

On January 31, 2008, we designated 44 coastal stream segments in Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, and Los Angeles Counties, California, totaling approximately 10,003 ac (4,053 ha) (73 FR 5920). We are proposing to revise this designation to a total of approximately 12,157 ac (4,920 ha) consisting of 65 critical habitat units. This is an increase of approximately 2,154 ac (867 ha) from the currently designated critical habitat. As a result of the additional units, some of the unit names have changed. In this section we present the differences between what was designated in 2008 and what is included in this proposed designation.

(1) Our analysis of new and updated information received since the 2008 critical habitat designation (73 FR 5920) resulted in the identification of areas meeting the definition of critical habitat that differ from the areas identified in 2008. We added and revised areas that meet the definition of critical habitat. Based on our current knowledge of the status and distribution of the species and life history requirements, we believe that including in this proposed rule some areas that were not previously identified as meeting the definition of critical habitat better supports the overall survival and conservation objectives for the species.

(2) We added information related to the genetics of the species rangewide and new distribution data that have become available to us following our 2008 designation (see Background section above).

As a result of the above, we are proposing to designate 12,157 ac (4,920 ha) as critical habitat in this revised rule (Table 1). The lands proposed for designation as critical habitat include areas in Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties, California.

TABLE 1—A COMPARISON OF THE AREAS (IN ACRES AND HECTARES) IDENTIFIED AS MEETING THE DEFINITION OF CRITICAL HABITAT FOR TIDEWATER GOBY IN THE 2008 FINAL CRITICAL HABITAT DESIGNATION AND THIS 2011 PROPOSED REVISED CRITICAL HABITAT DESIGNATION

| Unit | Name | 2008 | | 2011 | |
|---|---|---|---|---|---|
| | | Acres | Hectares | Acres | Hectares |
| **Del Norte County** | | | | | |
| DN–1 | Tillas Slough (Smith River) | 0 | 0 | 21 | 8 |
| DN–2 | Lake Earl/Lake Tolowa | 2,682 | 1,085 | 2,683 | 1,086 |
| Totals | | 2,682 | 1,085 | 2,704 | 1,094 |
| **Humboldt County** | | | | | |
| HUM–1 | Stone Lagoon | 586 | 237 | 653 | 264 |
| HUM–2 | Big Lagoon | 1,505 | 609 | 1,529 | 619 |
| HUM–3 | Humboldt Bay | 1,478 | 598 | 839 | 339 |
| HUM–4 | Eel River | 268 | 109 | 39 | 15 |
| Totals | | 3,837 | 1,553 | 3,060 | 1,237 |
| **Mendocino County** | | | | | |
| MEN–1 | Ten Mile River | 218 | 88 | 73 | 30 |
| MEN–2 | Virgin Creek | 11 | 4 | 4 | 2 |
| MEN–3 | Pudding Creek | 23 | 9 | 17 | 7 |
| MEN–4 | Davis Lake and Manchester State Park Ponds | 24 | 10 | 29 | 12 |
| Totals | | 276 | 112 | 123 | 51 |
| **Sonoma County** | | | | | |
| SON–1 | Salmon Creek | 100 | 41 | 108 | 44 |
| Totals | | 100 | 41 | 108 | 44 |
| **Marin County** | | | | | |
| MAR–1 | Estero Americano | 295 | 120 | 465 | 188 |
| MAR–2 | Estero de San Antonio | 178 | 72 | 285 | 115 |
| MAR–3 | Walker Creek | 0 | 0 | 118 | 48 |
| MAR–4 | Lagunitas (Papermill) Creek | 849 | 344 | 998 | 405 |
| MAR–5 | Bolinas Lagoon | 0 | 0 | 1,114 | 451 |
| MAR–6 | Rodeo Lagoon | 40 | 16 | 40 | 16 |
| Totals | | 1,362 | 551 | 3,020 | 1,223 |
| **San Mateo County** | | | | | |
| SM–1 | San Gregorio Creek | 39 | 16 | 45 | 18 |
| SM–2 | Pomponio Creek | 0 | 0 | 7 | 3 |
| SM–3 | Pescadero-Butano Creek | 218 | 88 | 245 | 99 |
| SM–4 | Bean Hollow Creek (Arroyo de Los Frijoles) | 10 | 4 | 10 | 4 |
| Totals | | 267 | 108 | 307 | 124 |
| **Santa Cruz County** | | | | | |
| SC–1 | Waddell Creek | 0 | 0 | 75 | 30 |
| SC–2 | Scott Creek | 0 | 0 | 74 | 30 |
| SC–3 | Laguna Creek | 26 | 11 | 26 | 11 |
| SC–4 | Baldwin Creek | 17 | 7 | 27 | 11 |
| SC–5 | Moore Creek | 0 | 0 | 15 | 6 |
| SC–6 | Corcoran Lagoon | 32 | 12 | 28 | 11 |
| SC–7 | Aptos Creek | 3 | 1 | 9 | 4 |
| SC–8 | Pajaro River | 176 | 71 | 215 | 87 |
| Totals | | 254 | 103 | 469 | 190 |
| **Monterey County** | | | | | |
| MN–1 | Bennett Slough | 155 | 63 | 167 | 68 |
| MN–2 | Salinas River | 0 | 0 | 466 | 189 |

TABLE 1—A COMPARISON OF THE AREAS (IN ACRES AND HECTARES) IDENTIFIED AS MEETING THE DEFINITION OF CRITICAL HABITAT FOR TIDEWATER GOBY IN THE 2008 FINAL CRITICAL HABITAT DESIGNATION AND THIS 2011 PROPOSED REVISED CRITICAL HABITAT DESIGNATION—Continued

| Unit | Name | 2008 | | 2011 | |
|---|---|---|---|---|---|
| | | Acres | Hectares | Acres | Hectares |
| Totals | | 155 | 63 | 633 | 257 |
| **San Luis Obispo County** | | | | | |
| SLO–1 | Arroyo de la Cruz | 0 | 0 | 33 | 13 |
| SLO–2 | Arroyo del Corral | 5 | 2 | 5 | 3 |
| SLO–3 | Oak Knoll Creek (Arroyo Laguna) | 3 | 1 | 5 | 3 |
| SLO–4 | Little Pico Creek | 2 | 1 | 9 | 4 |
| SLO–5 | San Simeon Creek | 16 | 7 | 17 | 7 |
| SLO–6 | Villa Creek | 5 | 2 | 15 | 7 |
| SLO–7 | San Geronimo Creek | 1 | 1 | 1 | 1 |
| SLO–8 | Toro Creek | 0 | 0 | 9 | 4 |
| SLO–9 | Los Osos Creek | 0 | 0 | 73 | 30 |
| SLO–10 | San Luis Obispo Creek | 0 | 0 | 31 | 12 |
| SLO–11 | Pismo Creek | 18 | 8 | 20 | 9 |
| SLO–12 | Oso Flaco Lake | 0 | 0 | 171 | 69 |
| Totals | | 50 | 20 | 389 | 162 |
| **Santa Barbara County** | | | | | |
| SB–1 | Santa Maria River | 468 | 189 | 474 | 192 |
| SB–2 | Cañada de las Agujas | 1 | 1 | 1 | 1 |
| SB–3 | Cañada de Santa Anita | 3 | 1 | 3 | 1 |
| SB–4 | Cañada de Alegria | 1 | 1 | 2 | 1 |
| SB–5 | Cañada del Agua Caliente | 1 | 1 | 1 | 1 |
| SB–6 | Gaviota Creek | 9 | 4 | 11 | 5 |
| SB–7 | Arroyo Hondo | 0 | 0 | 1 | 1 |
| SB–8 | Winchester/Bell Canyon | 6 | 3 | 6 | 3 |
| SB–9 | Goleta Slough | 0 | 0 | 190 | 76 |
| SB–10 | Arroyo Burro | 2 | 1 | 3 | 1 |
| SB–11 | Mission Creek-Laguna Channel | 14 | 6 | 7 | 3 |
| SB–12 | Arroyo Paredon | 0 | 0 | 4 | 3 |
| Totals | | 505 | 204 | 703 | 288 |
| **Ventura County** | | | | | |
| VEN–1 | Ventura River | 51 | 20 | 50 | 21 |
| VEN–2 | Santa Clara River | 350 | 142 | 322 | 130 |
| VEN–3 | J Street Drain-Ormond Lagoon | 45 | 18 | 121 | 49 |
| VEN–4 | Big Sycamore Canyon | 0 | 0 | 1 | 1 |
| Totals | | 446 | 180 | 495 | 201 |
| **Los Angeles County** | | | | | |
| LA–1 | Arroyo Sequit | 0 | 0 | 1 | 1 |
| LA–2 | Zuma Canyon | 0 | 0 | 5 | 2 |
| LA–3 | Malibu Lagoon | 64 | 27 | 64 | 27 |
| LA–4 | Topanga Creek | 5 | 2 | 6 | 2 |
| Totals | | 69 | 29 | 76 | 32 |
| **Orange County** | | | | | |
| OR–1 | Aliso Creek | 0 | 0 | 14 | 5 |
| Totals | | 0 | 0 | 14 | 5 |
| **San Diego** | | | | | |
| SAN–1 | San Luis Rey River | 0 | 0 | 56 | 23 |
| Totals | | 0 | 0 | 56 | 23 |
| Grand Totals | | 10,003 | 4,053 | 12,157 | 4,920 |

**Note:** Area sizes may not sum due to rounding.

**Proposed Revised Critical Habitat Designation**

We are proposing 65 units as critical habitat for the tidewater goby. The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the tidewater goby. The 65 areas we propose as revised critical habitat are listed in Table 2, which shows the occupancy status of the units.

TABLE 2—OCCUPANCY OF TIDEWATER GOBY BY PROPOSED REVISED CRITICAL HABITAT UNITS

| Unit | Name | Within the geographical area occupied at time of listing? | Currently occupied? |
|---|---|---|---|
| DN–1 | Tillas Slough (Smith River) | Yes | Yes. |
| DN–2 | Lake Earl/Lake Tolowa | Yes | Yes. |
| HUM–1 | Stone Lagoon | Yes | Yes. |
| HUM–2 | Big Lagoon | Yes | Yes. |
| HUM–3 | Humboldt Bay | Yes | Yes. |
| HUM–4 | Eel River | No | Yes. |
| MEN–1 | Ten Mile River | Yes | Yes. |
| MEN–2 | Virgin Creek | Yes | Yes. |
| MEN–3 | Pudding Creek | Yes | Yes. |
| MEN–4 | Davis Lake and Manchester State Park Ponds | Yes. | Yes. |
| SON–1 | Salmon Creek | Yes. | Yes. |
| MAR–1 | Estero Americano | Yes | Yes. |
| MAR–2 | Estero de San Antonio | Yes | Yes. |
| MAR–3 | Walker Creek | No | No. |
| MAR–4 | Lagunitas (Papermill) Creek | No | Yes. |
| MAR–5 | Bolinas Lagoon | No | No. |
| MAR–6 | Rodeo Lagoon | Yes | Yes. |
| SM–1 | San Gregorio Creek | Yes | Yes. |
| SM–2 | Pomponio Creek | No | No. |
| SM–3 | Pescadero-Butano Creek | Yes | Yes. |
| SM–4 | Bean Hollow Creek (Arroyo de Los Frijoles) | Yes | Yes. |
| SC–1 | Waddell Creek | Yes | No. |
| SC–2 | Scott Creek | No | Yes. |
| SC–3 | Laguna Creek | Yes | Yes. |
| SC–4 | Baldwin Creek | Yes | Yes. |
| SC–5 | Moore Creek | Yes | Yes. |
| SC–6 | Corcoran Lagoon | Yes | Yes. |
| SC–7 | Aptos Creek | Yes | Yes. |
| SC–8 | Pajaro River | Yes | Yes. |
| MN–1 | Bennett Slough | Yes | Yes. |
| MN–2 | Salinas River | No | No. |
| SLO–1 | Arroyo de la Cruz | No | No. |
| SLO–2 | Arroyo del Corral | Yes | Yes. |
| SLO–3 | Oak Knoll Creek (Arroyo Laguna) | Yes | Yes. |
| SLO–4 | Little Pico Creek | Yes | Yes. |
| SLO–5 | San Simeon Creek | Yes | Yes. |
| SLO–6 | Villa Creek | Yes | Yes. |
| SLO–7 | San Geronimo Creek | Yes | Yes. |
| SLO–8 | Toro Creek | Yes | Yes. |
| SLO–9 | Los Osos Creek | No | Yes. |
| SLO–10 | San Luis Obispo Creek | Yes | Yes. |
| SLO–11 | Pismo Creek | Yes | Yes. |
| SLO–12 | Oso Flaco Lake | No | No. |
| SB–1 | Santa Maria River | Yes | Yes. |
| SB–2 | Cañada de las Agujas | Yes | Yes. |
| SB–3 | Cañada de Santa Anita | Yes | Yes. |
| SB–4 | Cañada de Alegria | Yes | Yes. |
| SB–5 | Cañada del Agua Caliente | Yes | Yes. |
| SB–6 | Gaviota Creek | Yes | Yes. |
| SB–7 | Arroyo Hondo | No | Yes. |
| SB–8 | Winchester/Bell Canyon | Yes | Yes. |
| SB–9 | Goleta Slough | No | Yes. |
| SB–10 | Arroyo Burro | No | Yes. |
| SB–11 | Mission Creek-Laguna Channel | Yes | Yes. |
| SB–12 | Arroyo Paredon | No | Yes. |
| VEN–1 | Ventura River | Yes | Yes. |
| VEN–2 | Santa Clara River | Yes | Yes. |
| VEN–3 | J Street Drain-Ormond Lagoon | Yes | Yes. |
| VEN–4 | Big Sycamore Canyon | No | Yes. |
| LA–1 | Arroyo Sequit | No | No. |
| LA–2 | Zuma Canyon | No | No. |
| LA–3 | Malibu Lagoon | Yes | Yes. |
| LA–4 | Topanga Creek | No | Yes. |
| OR–1 | Aliso Creek | No | No. |

TABLE 2—OCCUPANCY OF TIDEWATER GOBY BY PROPOSED REVISED CRITICAL HABITAT UNITS—Continued

| Unit | Name | Within the geographical area occupied at time of listing? | Currently occupied? |
|---|---|---|---|
| SAN–1 | San Luis Rey River | No | Yes. |

Table 3 below provides the approximate area, by unit and landownership, proposed for revised designation of critical habitat for the tidewater goby.

TABLE 3—CRITICAL HABITAT UNITS PROPOSED FOR THE TIDEWATER GOBY (IN ACRES AND HECTARES) AND KNOWN THREATS THAT MAY REQUIRE SPECIAL MANAGEMENT CONSIDERATIONS OR PROTECTION OF THE ESSENTIAL PHYSICAL OR BIOLOGICAL FEATURES FOR UNITS WITHIN THE GEOGRAPHICAL AREA OCCUPIED BY THE SPECIES AT THE TIME OF LISTING

| Unit name | Federal | State | Local | Private | Total [1] | Known threats that may require special management considerations or protection of the essential features [2] |
|---|---|---|---|---|---|---|
| DN–1: Tillas Slough (Smith River) | 0(0) | 0(0) | 0(0) | 21(8) | 21(8) | 2,3,5 |
| DN–2: Lake Earl/Lake Tolowa | 0(0) | 2,335(945) | 0(0) | 348(141) | 2,683(1,086) | 1,4 |
| HUM–1: Stone Lagoon | 0(0) | 653(264) | 0(0) | 0(0) | 653(264) | 4 |
| HUM–2: Big Lagoon | 0(0) | 1,527(618) | 0(0) | 2(1) | 1,529(619) | 4 |
| HUM–3: Humboldt Bay | 652(264) | 61(24) | 45(18) | 81(33) | 839(339) | 1,3,4,5 |
| HUM–4: Eel River | 0(0) | 5(2) | 0(0) | 34(13) | 39(15) | N/A |
| MEN–1: Ten Mile River | 0(0) | 17(7) | 0(0) | 56(23) | 73(30) | 4 |
| MEN–2: Virgin Creek | 0(0) | 2(1) | 0(0) | 2(1) | 4(2) | 1,4 |
| MEN–3: Pudding Creek | 0(0) | 10(4) | 1(1) | 6(2) | 17(7) | 1,4 |
| MEN–4: Davis Lake and Manchester State Park Ponds | 0(0) | 29(12) | 0(0) | 0(0) | 29(12) | 4 |
| SON–1: Salmon Creek | 0(0) | 47(19) | 14(6) | 47(19) | 108(44) | 1,2,4,5 |
| MAR–1: Estero Americano | 0(0) | 0(0) | 0(0) | 465(188) | 465(188) | 1,4,5 |
| MAR–2: Estero De San Antonio | 0(0) | 0(0) | 0(0) | 285(115) | 285(115) | 1,2,4,5 |
| MAR–3: Walker Creek | 0(0) | 9(4) | 0(0) | 109(44) | 118(48) | N/A |
| MAR–4: Lagunitas (Papermill) Creek | 318(129) | 459(186) | 0(0) | 221(90) | 998(405) | N/A |
| MAR–5: Bolinas Lagoon | 29(12) | 0(0) | 1,048(424) | 37(15) | 1,114(451) | N/A |
| MAR–6: Rodeo Lagoon | 40(16) | 0(0) | 0(0) | 0(0) | 40(16) | 1 |
| SM–1: San Gregorio Creek | 0(0) | 33(13) | 0(0) | 12(5) | 45(18) | 1,3 |
| SM–2: Pomponio Creek | 0(0) | 1(1) | 0(0) | 6(2) | 7(3) | N/A |
| SM–3: Pescadero-Butano Creek | 0(0) | 241(97) | 0(0) | 4(2) | 245(99) | 1,3,4 |
| SM–4: Bean Hollow Creek (Arroyo de Los Frijoles) | 0(0) | 3(1) | 0(0) | 7(3) | 10(4) | 1,2 |
| SC–1: Waddell Creek | 0(0) | 39(16) | 0(0) | 36(14) | 75(30) | 3,4 |
| SC–2: Scott Creek | 0(0) | 66(27) | 6(2) | 2(1) | 74(30) | N/A |
| SC–3: Laguna Creek | 0(0) | 26(11) | 0(0) | 0(0) | 26(11) | 2,4 |
| SC–4: Baldwin Creek | 0(0) | 27(11) | 0(0) | 0(0) | 27(11) | 2,4 |
| SC–5: Moore Creek | 15(6) | 0(0) | 0(0) | 0(0) | 15(6) | 2,4 |
| SC–6: Corcoran Lagoon | 0(0) | 1(1) | 6(2) | 21(8) | 28(11) | 1,4 |
| SC–7: Aptos Creek | 0(0) | 9(4) | 0(0) | 0(0) | 9(4) | 1,3,4 |
| SC–8: Pajaro River | 0(0) | 158(64) | 11(4) | 46(19) | 215(87) | 1,3,4 |
| MN–1: Bennett Slough | 0(0) | 108(44) | 5(2) | 54(22) | 167(68) | 1,2,3,4 |
| MN–2: Salinas River | 195(79) | 33(13) | 1(1) | 237(96) | 466(189) | N/A |
| SLO–1: Arroyo de la Cruz | 0(0) | 25(10) | 0(0) | 8(3) | 34(13) | N/A |
| SLO–2: Arroyo del Corral | 0(0) | 4(2) | 0(0) | 1(1) | 5(3) | 1,5 |
| SLO–3: Oak Knoll Creek (Arroyo Laguna) | 0(0) | 4(2) | 0(0) | 1(1) | 5(3) | 1,3 |
| SLO–4: Little Pico Creek | 0(0) | 2(1) | 0(0) | 7(3) | 9(4) | 5 |
| SLO–5: San Simeon Creek | 0(0) | 17(7) | 0(0) | 0(0) | 17(7) | 2,4,5 |
| SLO–6: Villa Creek | 0(0) | 14(6) | 0(0) | 1(1) | 15(7) | 1,2,4,5 |
| SLO–7: San Geronimo Creek | 0(0) | 1(1) | 0(0) | 0(0) | 1(1) | 5 |
| SLO–8: Toro Creek | 0(0) | 1(1) | 0(0) | 8(3) | 9(4) | 2,3,4 |
| SLO–9: Los Osos Creek | 0(0) | 62(25) | 1(1) | 10(4) | 73(30) | N/A |
| SLO–10: San Luis Obispo Creek | 0(0) | 0(0) | 3(1) | 28(11) | 31(12) | 1,2,3,4 |
| SLO–11: Pismo Creek | 0(0) | 14(6) | 1(1) | 5(2) | 20(9) | 1,3,4 |
| SLO–12: Oso Flaco Lake | 0(0) | 165(67) | 0(0) | 6(2) | 171(69) | N/A |
| SB–1: Santa Maria River | 0(0) | 0(0) | 42(17) | 432(174) | 474(192) | 1,2,4,5 |
| SB–2: Cañada de las Agujas | 0(0) | 0(0) | 0(0) | 1(1) | 1(1) | 1,4 |

TABLE 3—CRITICAL HABITAT UNITS PROPOSED FOR THE TIDEWATER GOBY (IN ACRES AND HECTARES) AND KNOWN THREATS THAT MAY REQUIRE SPECIAL MANAGEMENT CONSIDERATIONS OR PROTECTION OF THE ESSENTIAL PHYSICAL OR BIOLOGICAL FEATURES FOR UNITS WITHIN THE GEOGRAPHICAL AREA OCCUPIED BY THE SPECIES AT THE TIME OF LISTING—Continued

| Unit name | Federal | State | Local | Private | Total [1] | Known threats that may require special management considerations or protection of the essential features [2] |
|---|---|---|---|---|---|---|
| SB–3: Cañada de Santa Anita | 0(0) | 0(0) | 0(0) | 3(1) | 3(1) | 4 |
| SB–4: Cañada de Alegria | 0(0) | 0(0) | 0(0) | 2(1) | 2(1) | 1,2,4,5 |
| SB–5: Cañada del Agua Caliente | 0(0) | 0(0) | 0(0) | 1(1) | 1(1) | 1,4 |
| SB–6: Gaviota Creek | 0(0) | 10(4) | 0(0) | 1(1) | 11(5) | 1,3,4,5 |
| SB–7: Arroyo Hondo | 0(0) | 0(0) | 0(0) | 1(1) | 1(1) | N/A |
| SB–8: Winchester/Bell Canyon | 0(0) | 0(0) | 1(1) | 5(2) | 6(3) | 4 |
| SB–9: Goleta Slough | 0(0) | 0(0) | 164(66) | 26(10) | 190(76) | N/A |
| SB–10: Arroyo Burro | 0(0) | 0(0) | 3(1) | 0(0) | 3(1) | N/A |
| SB–11: Mission Creek-Laguna Channel | 0(0) | 3(1) | 4(2) | 0(0) | 7(3) | 1,3,4 |
| SB–12: Arroyo Paredon | 0(0) | 1(1) | 1(1) | 2(1) | 4(3) | N/A |
| VEN–1: Ventura River | 0(0) | 25(10) | 16(7) | 9(4) | 50(20) | 1,2,3,4 |
| VEN–2: Santa Clara River | 0(0) | 199(80) | 14(6) | 110(44) | 323(130) | 1,2,3,4 |
| VEN–3: J Street Drain-Ormond Lagoon | 0(0) | 5(2) | 49(20) | 67(27) | 121(49) | 1,3,4 |
| VEN–4: Big Sycamore Canyon | 0(0) | 1(1) | 0(0) | 0(0) | 1(1) | N/A |
| LA–1: Arroyo Sequit | 0(0) | 1(1) | 0(0) | 0(0) | 1(1) | N/A |
| LA–2: Zuma Canyon | 0(0) | 0(0) | 5(2) | 0(0) | 5(2) | N/A |
| LA–3: Malibu Lagoon | 0(0) | 41(17) | 1(1) | 22(9) | 64(27) | 1,2,3,4 |
| LA–4: Topanga Creek | 0(0) | 4(1) | 0(0) | 2(1) | 6(2) | N/A |
| OR–1: Aliso Creek | 0(0) | 0(0) | 8(3) | 6(2) | 14(5) | N/A |
| SAN–1: San Luis Rey River | 0(0) | 3(1) | 49(20) | 4(2) | 56(23) | N/A |
| Total[1] | 1,249(506) | 6,501(2,636) | 1,501(611) | 2,906(1,177) | 12,157(4,920) | |

**Note:** Area sizes may not sum due to rounding.

[1]Area estimates in ac (ha) reflect the entire area within the proposed revised critical habitat unit boundaries. Area estimates are rounded to the nearest whole integer that is equal to or greater than 1.

[2]Codes of known threats that may require special management considerations or protection of the essential physical or biological features are as follows:

1. Coastal development projects that result in the loss or alteration of coastal wetland habitat affecting the PCE 1a, 1b, or 1c.
2. Water diversions, alterations of water flows, and groundwater overdrafting upstream of coastal lagoons and estuaries that negatively impact the species' breeding and foraging activities and the PCE 1a, or 1b.
3. Channelization of habitats where the species occurs affecting the PCE 1a, 1b, or 1c.
4. Non-point and point source pollution or discharge of agricultural and sewage effluents that are likely to impact the species' health or breeding and foraging activities and the PCE.
5. Cattle grazing that results in increased sedimentation of coastal lagoons and riparian habitats, removes vegetative cover, increases ambient water temperatures, and eliminates plunge pools and undercut banks utilized by tidewater goby affecting the PCE. N/A—Not applicable because location is outside the geographical area occupied by the species at the time of listing.

We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for tidewater goby, below. The first two or three letters in the code for each proposed revised critical habitat unit description reflect the county where the unit occurs: DN = Del Norte, HUM = Humboldt, MEN = Mendocino, SON = Sonoma, MAR = Marin, SM = San Mateo, SC = Santa Cruz, MN = Monterey, SLO = San Luis Obispo, SB = Santa Barbara, VEN = Ventura, LA = Los Angeles, OR = Orange, and SAN = San Diego. In Tables 1–3 above, these units are listed in sequential order from north to south. For the purposes of this document, the term ''local ownership'' refers to land owned or managed by a city, county, or municipal government entity.

*DN–1: Tillas Slough (21 ac (8 ha))*

This unit is located in Del Norte County, approximately 3.0 mi (4.8 km) west of the community of Smith River. The unit encompasses approximately 21 ac (8.0 ha), and consists entirely of private lands. DN–1 is located 8.0 mi (12.8 km) north of Lake Earl/Lake Tolowa (DN–2), which is also the next nearest extant population. DN–1 was occupied at the time of listing. This unit has the northernmost tidewater goby population rangewide. DN–1 will support the recovery of the tidewater goby population along this portion of the coast. This unit is important for maintaining the tidewater goby metapopulation in the region, and may play an important role in dispersal northwards and extending the range of the tidewater goby. This could prove critical if certain factors, such as climate change, adversely impact the tidewater goby habitat locally or to the south. A culvert that serves as a grade control structure, which mutes the tide cycle, provides relatively stable water levels in this unit (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater

goby habitat and potential management considerations.

*DN–2: Lake Earl/Lake Tolowa (2,683 ac (1,086 ha))*

This unit is located in Del Norte County, approximately 3 mi (4.8 km) north of the town of Crescent City. The unit encompasses approximately 2,683 ac (1,086 ha), and consists of 2,335 ac (945 ha) of State lands and 348 ac (140 ha) of private lands. This unit includes two contiguous lagoons (Lake Tolowa and Lake Earl), referred to collectively as Lake Earl. DN–2 is located 8.0 mi (12.8 km) south of (DN–1), which is also the nearest extant population. DN–2 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region.

DN–2 is representative of extensive coastal lagoons and bays north of Cape Mendocino formed over uplifting Holocene sediments on broad flat coastal benches. These coastal benches include an intricate network of estuaries and other channels that are features essential to the conservation of the tidewater goby because they provide refugia during seasonal floods and breeding habitat through the full range of drought cycles. The water level and salinity within the lagoon varies seasonally and annually in response to: (a) Periods of high precipitation or drought within its watershed; (b) the timing, duration, and frequency of breaching events; (c) the water level in the lagoon at the time of breaching; and (d) ocean tidal cycles during and immediately following a breach. As a result of natural and human-induced environmental changes, maximum water depth within Lake Earl/Lake Tolowa varies during an annual cycle from less than 5 ft (1.5 m) deep to more than 10 ft (3 m) deep. The distribution of tidewater goby and the PCE within Lake Earl/Lake Tolowa changes in response to these dynamic short-term habitat conditions; over a multi-year cycle, tidewater goby may persist and breed anywhere within the lagoon.

On an intermittent basis, DN–2 possesses a sandbar across the mouth of the lagoon or estuary during the majority of the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions during those times (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*HUM–1: Stone Lagoon (653 ac (264 ha))*

This unit is located in Humboldt County, approximately 11 mi (18 km) north of the City of Trinidad. The unit encompasses approximately 653 ac (264 ha), and consists entirely of State lands. HUM–1 is located 3.1 mi (5.0 km) north of Big Lagoon (HUM–2), which is also the nearest extant population. HUM–1 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. HUM–1 will also support the recovery of tidewater goby populations along this portion of the coast.

Of special concern is the threat to Stone Lagoon from the potential for accidental introduction of New Zealand mud snails (NZMS; *Potamopyrgus antipodarum*) from nearby Big Lagoon (HUM–2) and Freshwater Lagoon (not proposed as critical habitat), which are currently infested with NZMS. NZMS have spread throughout the western United States since becoming established in Idaho and Montana approximately 25 years ago. Once in a new habitat, NZMS typically have explosive population growth. Their large population numbers can drastically alter natural ecosystems with the NZMS competing with native species. Recreational fishing and boating occurs at Stone, Big, and Freshwater Lagoons. Introduction of NZMS to Stone Lagoon is likely to occur through foot traffic and boat launching from the two infested lagoons. Additional threats include the accidental introduction of other exotic aquatic species from outside the local area, including quagga mussels (*Dreissena rostriformis*) and zebra mussels (*Dreissena polymorpha*), which may also drastically alter the natural ecosystem of Stone Lagoon.

On an intermittent basis, HUM–1 possesses a sandbar across the mouth of the lagoon or estuary during the majority of the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*HUM–2: Big Lagoon (1,529 ac (619 ha))*

This unit is located in Humboldt County, approximately 7 mi (11 km) north of the City of Trinidad. The unit encompasses approximately 1,529 ac (619 ha), and consists of 1,527 ac (618 ha) of State lands and 2 ac (1 ha) of private lands. HUM–2 is located 3.1 mi (5.0 km) south of Stone Lagoon (HUM–1), which is also the nearest extant population. HUM–2 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. HUM–2 will also support the recovery of tidewater goby populations along this portion of the coast.

Mark and recapture surveys for tidewater goby were conducted by Humboldt State University in a large cove near the State Park boat ramp in Big Lagoon during the fall of 2008, 2009, and 2010, to estimate the minimum tidewater goby population for each year (Kinziger, pers. comm. 2010). Results indicate that, in 2008, the tidewater goby population was approximately 21,000 individuals. In 2009, the population was approximately 1.7 to 3.4 million individuals in the cove. In 2010, the population was approximately 30,000 individuals in the same cove. Based on the results of this research, which estimated that the population fluctuated between 21,000 and 1.7–3.4 million individuals, and the relatively large size of the lagoon, Big Lagoon likely has the largest and most robust tidewater goby population in northern California. The results of the study also reflect how variable tidewater goby population numbers can be from year to year in a given location.

On an intermittent basis, HUM–2 possesses a sandbar across the mouth of the lagoon or estuary during the majority of the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions during those times (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular

time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*HUM–3: Humboldt Bay (839 ac (339 ha))*

This unit is located in Humboldt County, within an approximate 8-mi (13-km) radius to the north, south, and east of the City of Eureka. The unit encompasses approximately 839 ac (339 ha), and consists of 652 ac (264 ha) of Federal lands, 61 ac (24 ha) of State lands, 45 ac (18 ha) of local lands, and 81 ac (33 ha) of private lands. HUM–3 is located 18.4 mi (29.7 km) north of the Eel River (HUM–4), which is also the nearest extant population. HUM–3 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. HUM–3 will also support the recovery of tidewater goby populations along this portion of the coast. This population may provide essential demographic and genetic support to HUM–4, especially after periods of extreme floods, for example, after the 1964 ''Christmas Flood'', when the population of tidewater goby at the Eel River estuary may have been extirpated.

Humboldt Bay and its adjacent marshes and estuaries are a complex mixture of natural and human-made aquatic features that have experienced many decades of human-induced changes. These changes include the construction of levees, tidegates, culverts, and other water control structures, and extensive dredging of sandbars. Surrounding the bay itself is a generally broad bench historically dominated by mudflats, tidal marshes, estuarine channels, and brackish marshes. Substantial portions of these habitats were converted to agricultural, urban, and industrial uses in recent history, resulting in the loss of as much as 10,000 ac (4,047 ha) of potentially suitable tidewater goby habitat. This critical habitat unit consists of a complex of interconnected estuary channels and human-made structures along the eastern edge of Humboldt Bay, which collectively mimic, on a much reduced scale, habitats largely lost through past management practices. Many of these channels and marshes are themselves the result of changes to historical habitats, and depend on specific, yet generally undocumented, management activities, such as dredging or sandbar breaches, for their continued function.

To address the dynamic variability of these habitats resulting from seasonal and inter-annual precipitation differences, we have included both the actual known locations where tidewater goby have been documented, as well as portions of those channels contiguous to, upchannel or downchannel, occupied habitat. We have not proposed Humboldt Bay proper in critical habitat, nor have we proposed major channels substantially subject to daily tidal fluctuations, as tidewater goby are not known to breed there. Similarly, we have not proposed channels that are discontiguous with occupied habitat, nor have we included intervening marsh or agricultural lands that may occasionally be flooded during severe winter storm events.

Based on several recent surveys, we have found that the precise locations of tidewater goby use within the channel complex during any particular year may change in response to variations in precipitation and channel hydrology. We anticipate that the persistence of the tidewater goby source population within this unit may require protection of lagoons and estuaries that are not occupied every year, but collectively support a source population through an interconnected complex of channels and shallow water habitats. That is, any of the several known occupied locations within a channel complex may be used by tidewater goby during various years in response to dynamic habitat conditions during seasonal, annual, and longer term climatic cycles, such as drought. Recently, significant restoration efforts directed primarily at salmonid recovery have occurred, or are anticipated to occur, within areas proposed as critical habitat. The effects of these salmonid restoration efforts to tidewater goby are unknown, and will likely vary with their design features and location.

PCE 1c (a sandbar(s) across the mouth of a lagoon or estuary) is not likely to occur within this unit because a navigable, dredged channel with a permanent open connection to the ocean is maintained on a regular basis. PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*HUM–4: Eel River (39 ac (15 ha))*

This unit is located in Humboldt County, approximately 4.0 mi (6.5 ha) northwest of the City of Ferndale. The unit consists of two subunits, totaling 5 ac (2 ha) of State lands and 34 ac (13 ha) of private lands. Both subunits are outside the geographical area occupied by the species at the time of listing but are now occupied. The Eel River estuary is similar to Humboldt Bay (HUM–3) in that tidewater goby populations have been found in isolated populations in severely and artificially fragmented habitats, which are often found behind tidegates, culverts, and other man-made structures. In Humboldt Bay (HUM–3), McCraney *et al.* (2010, p. 3315) found that artificial fragmentation reduced dispersal and gene flow in these populations. The same may be true for the Eel River estuary populations with isolated populations that are genetically distinct from each other. Therefore, until additional information is available regarding population genetics, distribution, and other parameters, we recommend that these two areas, the Eel River North Area (Subunit–4a) and the Eel River South Area (Subunit–4b), be considered distinct from each other. Artificially fragmented habitats in the Eel River estuary may have genetically isolated or weakened populations of tidewater goby, as has been identified in Humboldt Bay (HUM–3) (McCraney *et al.* 2010, p. 3315). Current and proposed estuarine restoration projects in the Eel River estuary may improve dispersal of tidewater goby, increase genetic diversity, and aid in recovery of the species in these locations as well.

*Subunit–4a (Eel River North Area)*

Subunit–4a encompasses approximately 16 ac (6 ha), and consists of 5 ac (2 ha) of State lands and 11 ac (4 ha) of private lands. Subunit–4a is located 18.4 mi (29.7 km) south of Humboldt Bay (HUM–3), which is also the nearest extant population. This subunit is essential for the conservation of the species because it possesses ecological characteristics that are important in maintaining the species' ability to adapt to changing environments, including the ability to disperse into higher channels and marsh habitat during severe flood events. The

Eel River delta includes a large, complex estuary with a network of diked and natural slough channels with suitable tidewater goby habitat. The Eel River delta contains many small unsurveyed slough channels and other backwater areas that provide suitable habitat for tidewater goby, but it also contains larger channels open to direct tidal influence that do not provide suitable habitat and are not included in this subunit. This subunit consists of backwater channels and immediately adjacent marsh contiguous to the known occupied habitat.

This unit is subject to infrequent, yet severe, flooding from the nearby Eel River proper. The major flood event of 1964 (''Christmas Flood''), and other major floods during the past century, may have severely altered habitat in most channels, including those currently occupied. Tidewater goby may have survived the flood and resulting loss of habitat in the refugia provided in upper channels and swales. Alternatively, the species may have been extirpated at the Eel River delta during those severe events, and become reestablished through recolonization by individuals from Humboldt Bay populations (HUM–3). Of particular importance, the Eel River location is at the north end of one of the largest natural geographic gaps in the tidewater goby's geographic range. The gap extends to the Ten Mile River (Mendocino County) to the south, representing a coastline distance in excess of 135 mi (217 km).

Although no tidewater goby surveys are known to have occurred in the Eel River estuary prior to listing, we considered this area to be unoccupied by the species until the Service discovered a new population of tidewater goby in the Eel River estuary during surveys in 2004 (Goldsmith 2006b, p. 1). Although Subunit–4a was not considered occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, Subunit–4a possesses a sandbar across the mouth of the lagoon or estuary during the majority of the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*Subunit–4b (Eel River South Area)*

Subunit–4b encompasses approximately 23 ac (9 ha), and consists entirely of private lands. Subunit-4b is located 18.4 mi (29.7 km) south of Humboldt Bay (HUM–3), which is also the nearest extant population. This subunit is essential for the conservation of the species because it possesses ecological characteristics that are important in maintaining the species' ability to adapt to changing environments, including the ability to disperse into higher channels and marsh habitat during severe flood events. The Southern Eel River delta includes a large complex estuary with a network of diked and natural slough channels, and other backwater areas that provide suitable habitat for tidewater goby. It also contains larger channels open to direct tidal influence that do not provide suitable habitat and are not included in this unit. This unit consists of backwater channels and immediately adjacent marsh contiguous to the known occupied habitat.

This unit is subject to infrequent, yet severe, flooding from the nearby Eel River proper. The major flood event of 1964 (''Christmas Flood''), and other major floods during the past century, may have severely altered habitat in most channels, including those currently occupied. Tidewater goby may have survived the flood and resulting loss of habitat in the refugia provided in upper channels and swales. Alternatively, the species may have been extirpated at the Eel River delta during those severe events, and become reestablished through recolonization by individuals from Humboldt Bay populations (HUM–3). Of particular importance, the Eel River location is at the north end of one of the largest natural geographic gaps in the tidewater goby's geographic range. The gap extends to the Ten Mile River (Mendocino County) to the south, representing a coastline distance in excess of 135 mi (217 km).

Although no tidewater goby surveys are known to have occurred in the Eel River estuary prior to listing, we considered this area to be unoccupied by the species until the Service discovered a new population of tidewater goby in the Eel River estuary during surveys in 2004 (Goldsmith 2006b, p. 1). Although Subunit-4b was not considered occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, Subunit-4b possesses a sandbar across the mouth of the lagoon or estuary during the majority of the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*MEN–1: Ten Mile River (73 ac (30 ha))*

This unit is located in Mendocino County, approximately 9.0 mi (14.5 km) north of the Town of Fort Bragg. The unit encompasses approximately 73 ac (30 ha), and consists of 17 ac (7 ha) of State lands and 56 ac (23 ha) of private lands. MEN–1 is located 5.6 mi (8.9 km) north of the Virgin Creek (MEN–2), which is also the nearest extant population. MEN–1 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. Furthermore, this unit is the largest block of habitat along the coast of Mendocino County, and is the first location on the southern end of one of the longest stretches of unsuitable habitat in the species' range (previously described under HUM–4). Thus, this unit is important to connect populations within Mendocino County. South of Ten Mile River, only three other small isolated locations (MEN–2, 3, 4) occupied by tidewater goby are known to exist across the more than 100 miles of rugged coastline between MEN–1 and SON–1 in south coastal Sonoma County.

On an intermittent basis, MEN–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MEN–2: Virgin Creek (4 ac (2 ha))*

This unit is located in Mendocino County, approximately 3.5 mi (5.6 km) north of the Town of Fort Bragg. The unit encompasses approximately 4 ac (2 ha), and consists of 2 ac (1 ha) of State lands and 2 ac (1 ha) of private lands. MEN–2 is located 1.2 mi (2.0 km) north of Pudding Creek (MEN–3), which is also the nearest extant population. MEN–2 was occupied by tidewater goby

at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. On an intermittent basis, MEN–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MEN–3: Pudding Creek (17 ac (7 ha))*

This unit is located in Mendocino County, approximately 2.5 mi (4.0 km) north of the town of Fort Bragg. The unit encompasses approximately 17 ac (7 ha), and consists of 10 ac (4 ha) of State lands, 1 ac (1 ha) of local lands, and 6 ac (2 ha) of private lands. MEN–3 is located 1.2 mi (2.0 km) south of Virgin Creek (MEN–2), which is also the nearest extant population. MEN–3 was occupied by the tidewater goby at the time of listing. This unit allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. On an intermittent basis, MEN–3 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MEN–4: Davis Lake and Manchester State Park Ponds (29 ac (12 ha))*

This unit is located in Mendocino County, approximately 1.2 mi (1.9 ha) west of the community of Manchester. The unit encompasses approximately 29 ac (12 ha), and consists entirely of State lands. MEN–4 is located 32.4 mi (52.2 km) south of Pudding Creek (MEN–3), which is also the nearest extant population. MEN–4 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. On an intermittent basis, MEN–4 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SON–1: Salmon Creek (108 ac (44 ha))*

This unit is located in Sonoma County, approximately 7 mi (11.3 km) south of the community of Jenner. The unit encompasses approximately 108 ac (44 ha), and consists of 47 ac (19 ha) of State lands, 14 ac (6 ha) local lands, and 47 ac (19 ha) of private lands. SON–1 is located 5.3 mi (8.5 km) north of the Estero Americano unit (MAR–1), which is also the nearest extant population. SON–1 was occupied by tidewater goby at the time of listing. The geological feature known as Bodega Head separates Salmon Creek and Estero Americano, and could reduce the exchange of tidewater goby between these two locations. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, SON–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MAR–1: Estero Americano (465 ac (188 ha))*

This unit is located in Marin County, approximately 3.5 mi (5.7 km) south of Bodega Bay. The unit encompasses approximately 465 ac (188 ha), and consists entirely of private lands. MAR–1 is located 2.2 mi (3.5 km) north of the Estero de San Antonio (MAR–2), which is also the nearest extant population. MAR–1 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast. On an intermittent basis, MAR–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MAR–2: Estero de San Antonio (285 ac (115 ha))*

This unit is located in Marin County, approximately 5.6 mi (9 km) south of Bodega Bay. The unit encompasses approximately 285 ac (115 ha), and consists entirely of private lands. MAR–2 is located 2.2 mi (3.5 km) south of the Estero Americano (MAR–1), which is also the nearest extant population. MAR–2 was occupied by tidewater goby at the time of listing. This critical habitat unit supports a source population of tidewater goby that likely provides individuals that are recruited into surrounding subpopulations. Given the close proximity of the MAR–1 and MAR–2 units and the dispersal capabilities of tidewater goby, it is likely that the two populations have exchanged individuals in the past and will continue to exchange individuals in the future. Exchange between these populations would bolster the continued sustainable existence of the two populations which will, together with unit SON–1, provide for natural colonization of available, but currently unoccupied, estuaries within the region south of the Russian River and north of Point Reyes. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, MAR–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MAR–3: Walker Creek (118 ac (48 ha))*

This unit is located in Marin County, approximately 2.5 mi (4 km) southwest of the Town of Tomales. The unit encompasses approximately 118 ac (48 ha) and consists of 9 ac (4 ha) of State lands and 109 ac (44 ha) of private lands. MAR–3 is located 4.6 mi (7.4 km) southeast of the Estero de San Antonio unit (MAR–2), which is also the nearest extant population. This unit is outside the geographical area occupied by the species at the time of listing and is not known to be currently occupied. However, tidewater goby were collected at Walker Creek in 1897, but were not found in sampling efforts conducted in 1996 or 1999 (Service 2005, p. C–8). This unit is identified in the Recovery Plan as a potential reintroduction site, and could provide habitat for maintaining the tidewater goby metapopulation in the region. MAR–3 is essential for the conservation of the species because establishing a tidewater goby population in this unit will support the recovery of the tidewater goby population along this portion of the coast and help facilitate colonization of currently unoccupied locations. Although MAR–3 is not currently occupied, it does possess the PCE that could support tidewater goby. However, PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*MAR–4: Lagunitas (Papermill) Creek (998 ac (405 ha))*

This unit is located in Marin County, approximately 20.5 mi (33 km) south of Bodega Bay. The unit encompasses approximately 998 ac (405 ha), and consists of 318 ac (129 ha) of Federal lands, 459 ac (186 ha) of State lands, and 221 ac (90 ha) of private lands. MAR–4 is located 15.5 mi (25.0 km) south of the Estero de San Antonio unit (MAR–2), which is also the nearest extant population. Records indicate tidewater goby occurred at this location historically. This unit is outside the geographical area occupied by the species at the time of listing, but recent surveys have confirmed that the unit is currently occupied. This unit is essential for the conservation of the species because it is the only known location of the tidewater goby to remain within the greater Tomales Bay area. Without this subpopulation, there would be no source population within dispersal distance of Tomales Bay to maintain the metapopulation dynamics of populations within the area. Thus, if allowed to establish a robust population, the unit could support an important source population for future colonization or introductions to other habitats within Tomales Bay. Although MAR–4 was not considered occupied at the time of listing, it does possess the PCE that could support tidewater goby. We do not have information that confirms that PCE 1c (a sandbar(s) across the mouth of the lagoon or estuary) is present within this unit on at least an intermittent basis. However, PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*MAR–5: Bolinas Lagoon (1,114 ac (451 ha))*

This unit is located in Marin County, approximately 0.5 mi (0.81 km) east of the community of Bolinas. The unit encompasses approximately 1,114 ac (451 ha), and consists of 29 ac (12 ha) of Federal Lands, 1,048 ac (424 ha) of local lands, and 37 ac (15 ha) of private lands. MAR–5 is located 9.4 mi (15.1 km) northwest of the Rodeo Lagoon unit (MAR–6), which is also the nearest extant population. This unit is outside the geographical area occupied by the species at the time of listing, is not known to be currently occupied, and there are no historical tidewater goby records for this location. However, this unit is essential for the conservation of the species because it provides habitat to nearby occupied units and is identified in the Recovery Plan as a potential introduction site, and could provide habitat for maintaining tidewater goby metapopulations in the region. If a tidewater goby population is established in this unit, MAR–5 unit will support the recovery of the tidewater goby population along this portion of the coast and help facilitate colonization of currently unoccupied locations. Although MAR–5 is not currently occupied, it does possess the PCE that could support tidewater goby. We do not have information that confirms that PCE 1c (a sandbar(s) across the mouth of the lagoon or estuary) is present within this unit on at least an intermittent basis. However, PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*MAR–6: Rodeo Lagoon (40 ac (16 ha))*

This unit is located in Marin County, approximately 3.8 mi (6 km) north of San Francisco. The unit encompasses approximately 40 ac (16 ha), and consists entirely of Federal lands. MAR–6 is located 9.4 mi (15.1 km) south of Bolinas Lagoon (MAR–5), and is

separated from the nearest extant population to the south, San Gregorio Creek (SM–1), by 36 mi (58 km). MAR–6 was occupied by tidewater goby at the time of listing. MAR–6 is the only known location where the tidewater goby remains within the greater Bay Area. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). It also provides habitat for a population of tidewater goby that could disperse to other adjoining habitats. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, MAR–6 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SM–1: San Gregorio Creek (45 ac (18 ha))*

This unit is located in San Mateo County, approximately 28 mi (45 km) south of the San Francisco-San Mateo County line. The unit encompasses approximately 45 ac (18 ha), and consists of 33 ac (13 ha) of State lands and 12 ac (5 ha) of private lands. SM–1 is located 1.5 mi (2.4 km) north of Pomponio Creek (SM–2), and is separated from the nearest extant population to the south, Pescadero-Butano Creek (SM–3), by 3.8 mi (6.1 km). SM–1 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). This unit is noted for high densities of tidewater goby (Swenson 1993, p. 3).

On an intermittent basis, SM–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SM–2: Pomponio Creek (7 ac (3 ha))*

This unit is located in San Mateo County, approximately 3.5 mi (5.6 km) north of the community of Pescadero. The unit encompasses approximately 7 ac (3 ha), and consists of 1 ac (1 ha) of State lands and 6 ac (2 ha) of private lands. SM–2 is located 1.5 mi (2.4 km) south of the San Gregorio Creek unit (SM–1), which is also the nearest extant population. This unit is outside the geographical area occupied by the species at the time of listing, is not known to be currently occupied, and there are no historical tidewater goby records for this location. However, this unit is essential for the conservation of the species because it provides habitat to nearby occupied units and is identified in the Recovery Plan as a potential introduction site, and could provide habitat for maintaining the tidewater goby metapopulation in the region. If a tidewater goby population is established in this unit, SM–2 unit will support the recovery of the tidewater goby population along this portion of the coast, and will help facilitate tidewater goby distribution between populations and colonization of currently unoccupied locations. Although SM–2 is not currently occupied, it does possess the PCE that could support tidewater goby.

On an intermittent basis, SM–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SM–3: Pescadero-Butano Creek (245 ac (99 ha))*

This unit is located in San Mateo County, approximately 32.0 mi (51.0 km) south of the San Francisco-San Mateo County line. This unit encompasses approximately 245 ac (99 ha), and consists of 241 ac (97 ha) of State lands and 4 ac (2 ha) of private lands. SM–3 is located 2.2 mi (3.5 km) south of Pomponio Creek (SM–2), and is separated from the nearest extant population to the south, in Bean Hollow Creek (SM–4), by 3.0 mi (4.8 km). SM–3 was occupied by tidewater goby at the time of listing. This unit is unusual in that some tidewater goby from this location possess a parasite that appears to occasionally affect their health. These parasites, or the environmental factors that increase the prevalence of the parasites, may represent a threat to this population not identified in Table 3. This unit allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region.

On an intermittent basis, SM–3 possesses a sandbar across the mouth of the lagoon or estuary during the late spring and early fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SM–4: Bean Hollow Creek (Arroyo de Los Frijoles) (10 ac (4 ha))*

This unit is located in San Mateo County, approximately 34.8 mi (56.0 km) south of the San Francisco-San Mateo County line. The unit encompasses approximately 10 ac (4 ha), and consists of 3 ac (1 ha) of State lands and 7 ac (3 ha) private lands. SM–4 is located approximately 3.0 mi (4.8 km) south of the Pescadero-Butano Creek (SM–3), which is also the nearest extant population. SM–4 was occupied by tidewater goby at the time of listing. Maintaining this unit, together with the

two units to the north, will reduce the chance of losing the tidewater goby along this important coastal range and allow for connectivity between tidewater goby source populations, thereby supporting gene flow and metapopulation dynamics in this region.

On an intermittent basis, SM–4 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SC–1: Waddell Creek (75 ac (30 ha))*

This unit is located in Santa Cruz County, approximately 18 mi (29 km) northwest of the city of Santa Cruz. The unit encompasses approximately 75 ac (30 ha), and consists of 39 ac (16 ha) of State lands and 36 ac (14 ha) of private lands. SC–1 is located approximately 5.0 mi (8.0 km) north of the Scott Creek (SC–2), which is also the nearest extant population. This unit is at the northern extent of this metapopulation as described in the Recovery Plan. Tidewater goby were present in low numbers in 1996, and were absent during surveys from 1997 to 2000 (Service 2005, p. C–12). Therefore, SC–1 was occupied at the time of listing.

This unit is identified in the Recovery Plan as a potential reintroduction site. This unit will provide habitat for tidewater goby dispersing from Scott Creek either through natural means, or by reintroduction, which may serve to decrease the risk of extirpation of this metapopulation through stochastic events. If a tidewater goby population is established in this unit, it would also allow for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. Lastly, this unit may offer habitat that is superior to that in nearby occupied locations (the potential viability of tidewater goby in the unoccupied unit may be higher). The original population at this locality was considered extirpated by Swift *et al.* (1989, p. 4). However, tidewater goby were reintroduced in 1991 from Scott Creek (Lafferty *et al.* 1999b, p. 1448). Long-term sustainability of backwater habitat may preclude the establishment of a tidewater goby subpopulation; however, the creation of suitable backwater habitat would ensure a self-sustaining subpopulation of tidewater goby at this location. Although SC–1 is not currently occupied, it does possess the PCE that could support tidewater goby.

On an intermittent basis, SC–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SC–2: Scott Creek (74 ac (30 ha))*

This unit is located in Santa Cruz County, approximately 11.8 mi (19.0 km) northwest of the City of Santa Cruz. The unit encompasses approximately 74 ac (30 ha), and consists of 66 ac (27 ha) of State lands, 6 ac (2 ha) of local lands, and 2 ac (1 ha) of private lands. SC–2 is located 5.0 mi (8.0 km) south of Waddell Creek (SC–1), and is separated from the nearest extant population to the south, in Laguna Creek (SC–3), by 6.0 mi (9.6 km). SC–2 is outside the geographical area occupied by the species at the time of listing, but was subsequently found to be occupied. This unit is essential for the conservation of the species because it provides habitat for the species, allows for connectivity between tidewater goby source populations from nearby units, supports gene flow, and provides for metapopulation dynamics in this region. Although SC–2 was not considered to be occupied at the time of listing, it does possess the PCE that support tidewater goby. On an intermittent basis, SC–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SC–3: Laguna Creek (26 ac (11 ha))*

This unit is located in Santa Cruz County, approximately 7.5 mi (12.0 km) west of the City of Santa Cruz. The unit encompasses approximately 26 ac (11 ha), and consists entirely of State lands. SC–3 is located 6.0 mi (9.6 km) south of Scott Creek (SC–2), the nearest extant population to the north, and is separated from the nearest extant population to the south, in Baldwin Creek (SC–4), by 2.0 mi (3.2 km). SC–3 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Together with Baldwin Creek (SC–4) to the south, this habitat unit helps conserve the genetic diversity of the species.

On an intermittent basis, SC–3 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SC–4: Baldwin Creek (27 ac (11 ha))*

This unit is located in Santa Cruz County, approximately 6 mi (9.7 km) west of the City of Santa Cruz. The unit encompasses approximately 27 ac (11 ha), and consists entirely of State lands. SC–4 is located 2.0 mi (3.2 km) south of Laguna Creek (SC–3), and is separated from the nearest extant population to the south, Lombardi Creek (not proposed as critical habitat), by 0.7 mi (1.2 km). SC–4 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is

likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172) and, together with Laguna Creek (SC–3) to the north, helps conserve genetic diversity within the species.

On an intermittent basis, SC–4 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SC–5: Moore Creek (15 ac (6 ha))*

This unit is located in Santa Cruz County, approximately 2.0 mi (3.2 km) west of the City of Santa Cruz. The unit encompasses approximately 15 ac (6 ha), and consists of entirely of Federal lands. SC–5 is located 4.0 mi (6.4) south of Baldwin Creek. SC–5 is separated from the nearest extant population to the north, Younger Lagoon (not proposed as critical habitat), by 0.5 mi (0.8 km). SC–5 was occupied at the time of listing. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species. On an intermittent basis, SC–5 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SC–6: Corcoran Lagoon (28 ac (11 ha))*

This unit is located in Santa Cruz County, approximately 3 mi (4.8 km) east of the City of Santa Cruz. This unit encompasses approximately 28 ac (11 ha), and consists of 1 ac (1 ha) of State lands, 6 ac (2 ha) of local lands, and 21 ac (8 ha) of private lands. SC–6 is located 4.0 mi (6.4 km) south of Moore Creek (SC–5), and the unit is separated from the nearest extant population to the south, in Moran Lake (not proposed as critical habitat), by 0.7 mi (1.1 km). SC–6 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, SC–6 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SC–7: Aptos Creek (9 ac (4 ha))*

This unit is located in Santa Cruz County, approximately 0.5 mi (0.8 km) southwest of the City of Aptos. The unit encompasses approximately 9 ac (4 ha), and consists entirely of State lands. SC–7 is located 4.1 mi (6.6 km) east of Corcoran Lagoon (SC–6), and is separated from the nearest extant population to the north, Moran Lake (not proposed as critical habitat), by 4.2 mi (6.75 km). SC–7 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population in this region, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast. On an intermittent basis, SC–7 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SC–8: Pajaro River (215 ac (87 ha))*

This unit is located in Santa Cruz County, approximately 5 mi (8 km) southwest of the City of Watsonville. The unit encompasses approximately 215 ac (87 ha), and consists of 158 ac (64 ha) of State lands, 11 ac (4 ha) of local lands, and 46 ac (19 ha) of private lands. SC–8 is located 9.7 mi (15.6 km) south of Aptos Creek (SC–7), and is separated from the nearest extant population to the south, in Bennett Slough (MN–1), by 3.0 mi (4.7 km). SC–8 was occupied by tidewater goby at the time of listing. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species. On an intermittent basis, SC–8 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see

*Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MN–1: Bennett Slough (167 ac (68 ha))*

This unit is located in Monterey County, approximately 3.7 mi (6 km) northwest of the Town of Castroville. This unit encompasses approximately 167 ac (68 ha), and consists of 108 ac (44 ha) of State lands, 5 ac (2 ha) of local lands, and 54 ac (22 ha) of private lands. MN–1 is located 4.1 mi (6.6 km) south of the Pajaro River (SC–8), and is separated from the nearest extant population to the south, Moro Cojo Slough (not proposed as critical habitat), by 1.3 mi (2.1 km). MN–1 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172), and maintaining it will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

PCE 1c (a sandbar(s) across the mouth of lagoon or estuary) is not likely to occur within this unit because it has a navigable, dredged channel with a permanent open connection to the ocean that is maintained on a regular basis. However, PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*MN–2: Salinas River (466 ac (189 ha))*

This unit is located in Monterey County, approximately 7.5 mi (12 km) north of the City of Seaside. The unit encompasses approximately 466 ac (189 ha), and consists of 195 ac (79 ha) of Federal lands, 33 ac (13 ha) of State lands, 1 ac (1 ha) of local lands, and 237 ac (96 ha) of private lands. Unit MN–2 is located 4.0 mi (8.0 km) south of the Bennett Slough unit (MN–1). This unit is outside the geographical area occupied by the species at the time of listing and is not known to be currently occupied; however, this unit is essential for the conservation of the species. Tidewater goby were last collected here in 1951, but were not present during surveys in 1991, 1992, and 2004 (Service 2005, p. C–16). This unit is identified in the Recovery Plan as a potential reintroduction site. This unit will provide habitat for tidewater goby that disperse from Bennett Slough and Moro Cojo Slough, either through natural means or by reintroduction, which may serve to decrease the risk of extirpation of this metapopulation through stochastic events. This unit will also allow for connectivity between tidewater goby source populations, and thereby support gene flow and metapopulation dynamics in this region. Lastly, this unit is one of only three locations in Monterey County that have harbored tidewater goby and is one of the two subpopulations in the metapopulation as described in the Recovery Plan. Therefore, this unit is especially important for ensuring the viability of the metapopulation.

Although MN–2 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, MN–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SLO–1: Arroyo de la Cruz (33 ac (13 ha))*

This unit is located in San Luis Obispo County, approximately 8.0 mi (13.0 km) northwest of San Simeon. The unit encompasses approximately 33 ac (13 ha), and consists of 25 ac (10 ha) of State lands and 8 ac (3 ha) of private lands. SLO–1 is located approximately 2.0 mi (3.2 km) north of the Arroyo de Corral unit (SLO–2), which is also the nearest extant population. This unit is outside the geographical area occupied by the species at the time of listing, is not known to be currently occupied, and there are no historical tidewater goby records for this location. However, this unit is essential for the conservation of the species because it provides habitat to nearby occupied units and is identified in the Recovery Plan as a potential introduction site, and could provide habitat for maintaining the tidewater goby metapopulation in the region.

This unit will provide habitat for tidewater goby that disperse from Arroyo del Corral, either through natural means or by reintroduction, which may serve to decrease the risk of extirpation of this metapopulation through stochastic events. This unit will also allow for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. Lastly, this unit is the only other location with suitable habitat within the metapopulation that is currently comprised of one subpopulation as described in the Recovery Plan. Therefore, this unit is especially important for ensuring the viability of the metapopulation because if the subpopulation within the Arroyo de Corral unit is extirpated, the entire metapopulation would be lost. Although SLO–1 is not currently occupied, it does possess the PCE that could support tidewater goby. SLO–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SLO–2: Arroyo del Corral (5 ac (3 ha))*

This unit is located in San Luis Obispo County, approximately 6 mi (9.7 km) northwest of San Simeon. The unit encompasses approximately 5 ac (3 ha), and consists entirely of 4 ac (2 ha) of State lands and 1 ac (1 ha) of private lands. SLO–2 is located 2 mi (3.2 km) south of Arroyo de la Cruz (SLO–1), and is separated from the nearest extant population to the south, Oak Knoll Creek (SLO–3), by 4.3 mi (6.9 km). SLO–2 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, SLO–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–3: Oak Knoll Creek (Arroyo Laguna) (5 ac (3 ha))*

This unit is located in San Luis Obispo County, approximately 2 mi (3.2 km) northwest of San Simeon. The unit encompasses approximately 5 ac (3 ha), and consists of 4 ac (2 ha) of State lands and 1 ac (1 ha) of private lands. SLO–3 is located 4.3 mi (6.9 km) south of Arroyo del Corral (SLO–2), and is separated from the nearest extant population to the south, in Arroyo de Tortuga (not proposed as critical habitat), by 0.5 mi (0.8 km). SLO–3 was occupied at the time of listing. This unit allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. On an intermittent basis, SLO–3 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–4: Little Pico Creek (9 ac (4 ha))*

This unit is located in San Luis Obispo County, approximately 6.7 mi (10.8 km) northwest of the Town of Cambria. The unit encompasses approximately 9 ac (4 ha), and consists of 2 ac (1 ha) of State lands and 7 ac (3 ha) of private lands. SLO–4 is located 3.7 mi (5.9 km) south of Oak Knoll Creek (SLO–3). The unit is separated from the nearest extant population to the north, in Broken Bridge Creek (not proposed as critical habitat), by 1.4 mi (2.2 km). SLO–4 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast. On an intermittent basis, SLO–4 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–5: San Simeon Creek (17 ac (7 ha))*

This unit is located in San Luis Obispo County, approximately 3.3 mi (5.3 km) northwest of the Town of Cambria. The unit encompasses approximately 17 ac (7 ha), and consists entirely of State lands. SLO–5 is located 3.8 mi (6.1 km) south of Little Pico Creek (SLO–4), and is separated from the nearest extant population to the south, in Santa Rosa Creek (not proposed as critical habitat), by 2.6 mi (4.2 km). SLO–5 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this unit, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast. On an intermittent basis, SLO–5 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–6: Villa Creek (15 ac (7 ha))*

This unit is located in San Luis Obispo County, approximately 9.6 mi (15.4 km) southeast of Cambria. The unit encompasses 15 ac (7 ha) and consists of 14 ac (6 ha) of State lands and 1 ac (1 ha) of private lands. SLO–6 is located 12.3 mi (19.8 km) south of San Simeon Creek (SLO–5), and is separated from the nearest extant population to the south, in San Geronimo Creek (SLO–7), by 2.3 mi (3.7 km). SLO–6 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, SLO–6 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–7: San Geronimo Creek (1 ac (1 ha))*

This unit is located in San Luis Obispo County, approximately 7.6 mi (12.2 km) northwest of the Town of Morro Bay, and approximately 1.4 mi (2.5 km) west of the Town of Cayucos. The unit encompasses approximately 1 ac (1 ha), and consists entirely of State lands. SLO–7 is located 2.3 mi (3.7 km) south of Villa Creek (SLO–6), and is separated from the nearest extant population to the south, in Cayucos Creek (not proposed as critical habitat), by 1.5 mi (2.4 km). SLO–7 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast.

On an intermittent basis, SLO–7 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–8: Toro Creek (9 ac (4 ha))*

This unit is located in San Luis Obispo County, approximately 2.3 mi (3.7 km) south of the Town of Cayucos. The unit encompasses approximately 9 ac (4 ha), and consists of 1 ac (1 ha) of State lands and 8 ac (3 ha) of private lands. SLO–8 is located 5 mi (8.0 km) south of San Geronimo Creek (SLO–7), and is separated from the nearest extant population to the north, in Old Creek (not proposed as critical habitat), by 1.8 mi (2.9 km). SLO–8 was occupied at the time of listing. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species. On an intermittent basis, SLO–8 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–9: Los Osos Creek (73 ac (30 ha))*

This unit is located in San Luis Obispo County, within the Town of Baywood. The unit encompasses approximately 73 ac (30 ha), and consists of 62 ac (25 ha) of State lands, 1 ac (1 ha) of local lands, and 10 ac (4 ha) of private lands. The unit is separated from the nearest extant population to the north, in Toro Creek (SLO–8), by 8.0 mi (12.8 km). Tidewater goby were present during surveys in 2001 (Service 2005, p. C–21). Prior to the observations in 2001, tidewater goby had not been seen here since 1981 (Service 2005, p. C–21). Therefore, SLO–9 is outside the geographical area occupied by the species at the time of listing but is currently occupied. This unit is essential for the conservation of the species because it provides habitat to nearby occupied units and is identified in the Recovery Plan as a potential introduction site, and could provide habitat for maintaining the tidewater goby metapopulation in the region. Maintaining this unit will also reduce the chance of losing the tidewater goby along this portion of the coast. Although SLO–9 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. PCE 1c (a sandbar(s) across the mouth of lagoon or estuary) is not likely to occur within this unit because it has a navigable channel with an open connection to Morro Bay, which is dredged on a regular basis. However, PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SLO–10: San Luis Obispo Creek (31 ac (12 ha))*

This unit is located in San Luis Obispo County, within the Town of Avila Beach. The unit encompasses approximately 31 ac (12 ha), and consists of 3 ac (1 ha) of local lands, and 28 ac (11 ha) of private lands. The unit is separated from the nearest extant population to the south, in Pismo Creek (SLO–11), by 7.0 mi (11.2 km). SLO–10 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). On an intermittent basis, SLO–10 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–11: Pismo Creek (20 ac (9 ha))*

This unit is located in San Luis Obispo County, within the Town of Pismo Beach. The unit encompasses approximately 20 ac (9 ha), and consists of 14 ac (6 ha) of State lands, 1 ac (1 ha) of local lands, and 5 ac (2 ha) of private lands. SLO–11 is located 7 mi (11.2 km) south of San Luis Obispo Creek (SLO–10). The unit is separated from the nearest extant population to the south, in Arroyo Grande Creek (not proposed as critical habitat), by 2.6 mi (4.2 km). SLO–11 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast. On an intermittent basis, SLO–11 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur

throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SLO–12: Oso Flaco Lake (171 ac (69 ha))*

This unit is located in San Luis Obispo County, approximately 5 mi (8.0 km) northwest of the City of Santa Maria. The unit encompasses approximately 171 ac (69 ha), and consists of 165 ac (67 ha) of State lands and 6 acre (2 ha) of private lands. The unit is separated from the nearest extant population to the south, the Santa Maria River (SB–1), by 4 mi (6.4 km). This unit is outside the geographical area occupied by the species at the time of listing, is not known to be currently occupied, and there are no historical tidewater goby records for this location. However, this unit is essential for the conservation of the species because it provides habitat to nearby occupied units and is identified in the Recovery Plan as a potential introduction site, and could provide habitat for maintaining the tidewater goby metapopulation in the region. This unit will provide habitat for tidewater goby that disperse from Arroyo Grande Creek and the Santa Maria River, either through natural means or by introduction, which may serve to decrease the risk of extirpation of this metapopulation through stochastic events. This unit would also allow for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. Lastly, tidewater goby may be precluded from this location due to water quality impairments; however, the California Regional Water Control Board is currently working with the Service to remedy these impairments. Although SLO–12 is not currently occupied, it does possess the PCE that could support tidewater goby. On an intermittent basis, SLO–12 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SB–1: Santa Maria River (474 ac (192 ha))*

This unit is located in Santa Barbara County, approximately 13 mi (21 km) west of the City of Santa Maria. The unit encompasses approximately 474 ac (192 ha), and consists of 42 ac (17 ha) of local lands and 432 ac (175 ha) of private lands. SB–1 is located 4 mi (6.4 km) south of Oso Flaco Lake (SLO–12), and is separated from the nearest extant population to the south, in Shuman Canyon (not proposed as critical habitat; see *Application of Section 4(a)(3) of the Act—Vandenberg Air Force Base* section below), by 8.6 mi (13.9 km). SB–1 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, SB–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–2: Cañada de las Agujas (1 ac (1 ha))*

This unit is located in Santa Barbara County, approximately 7.2 mi (11.6 km) west of Gaviota. The unit encompasses approximately 1 ac (1 ha), and consists entirely of private lands. SB–2 is located 38.8 mi (62.5 km) south of the Santa Maria River (SB–1), and is separated from the nearest extant population to the south, in Arroyo El Bulito (not proposed as critical habitat), by 0.4 mi (0.7 km). SB–2 was occupied at the time of listing. This unit allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. Furthermore, we believe this unit, and units SB–3, SB–4, SB–5, and SB–6, likely act as a metapopulation as defined in the Background section. These units are no more than 2.0 mi (3.3 km) from each other, which facilitates higher dispersal rates between sites. Because these units are of relatively small size in area (1 to 9 ac (1 to 4 ha)), they are more susceptible to drying or shrinking due to drought conditions, which increases the likelihood of local extirpation. Lastly, because these units are small, they are likely to be dependent upon some degree of periodic exchange of tidewater goby between units for any one unit to persist over time. Therefore, designation of critical habitat at these five locations is necessary for the conservation of the tidewater goby along the Gaviota Coast in Santa Barbara County.

On an intermittent basis, SB–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–3: Cañada de Santa Anita (3 ac (1 ha))*

This unit is located in Santa Barbara County, approximately 5.2 mi (8.4 km) west of Gaviota. The unit encompasses approximately 3 ac (1 ha), and consists entirely of private lands. SB–3 is located 2.0 mi (3.2 km) south of Cañada de las Agujas (SB–2), and is separated from the nearest extant population to the north, in Cañada del Agua (not proposed as critical habitat), by 0.4 mi (0.7 km). SB–3 was occupied at the time of listing. This unit is important to the conservation of the species because it allows for connectivity between tidewater goby source populations, and thereby supports gene flow and

metapopulation dynamics in this region. Furthermore, as described above in SB–2, we believe this unit, and units SB–2, SB–4, SB–5, and SB–6, likely act as a metapopulation as defined in the Background section, and that designation of critical habitat at these five locations is necessary for the conservation of the tidewater goby along the Gaviota Coast in Santa Barbara County.

On an intermittent basis, SB–3 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–4: Cañada de Alegria (2 ac (1 ha))*

This unit is located in Santa Barbara County, approximately 3.2 mi (5.1 km) west of Gaviota. The unit encompasses approximately 2 ac (1 ha), and consists entirely of private lands. SB–1 is located 2.0 mi (3.3 km) south of Cañada de Santa Anita (SB–3), and is separated from the nearest extant population to the south, in Cañada del Agua Caliente (SB–5), by 1.1 mi (1.8 km). SB–4 was occupied at the time of listing. This unit is important to the conservation of the species because it allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. Furthermore, as described above in SB–2, we believe this unit, and units SB–2, SB–3, SB–5, and SB–6, likely act as a metapopulation as defined in the Background section, and that designation of critical habitat at these five locations is necessary for the conservation of the tidewater goby along the Gaviota Coast in Santa Barbara County.

On an intermittent basis, SB–4 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–5: Cañada del Agua Caliente (1 ac (1 ha))*

This unit is located in Santa Barbara County, approximately 2.1 mi (3.4 km) west of Gaviota. This unit encompasses approximately 1 ac (1 ha), and consists entirely of private lands. SB–5 is located 1.1 mi (1.8 km) south of Cañada de Alegria (SB–4), which is also the nearest extant population. SB–5 was occupied at the time of listing. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). This unit helps conserve genetic diversity within the species. This unit also allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. Furthermore, as described above in SB–2, we believe this unit, and units SB–2, SB–3, SB–4, and SB–6, likely act as a metapopulation as defined in the Background section, and that designation of critical habitat at these five locations is necessary for the conservation of the tidewater goby along the Gaviota Coast in Santa Barbara County.

On an intermittent basis, SB–5 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–6: Gaviota Creek (11 ac (5 ha))*

This unit is located in Santa Barbara County, approximately 0.8 mi (1.3 km) west of Gaviota. This unit encompasses approximately 11 ac (5 ha), and consists of 10 ac (4 ha) of State lands and 1 ac (1 ha) of private lands. SB–6 is located 1.5 mi (2.4 km) south of Cañada del Agua Caliente (SB–5), which is also the nearest extant population. SB–6 was occupied at the time of listing. This unit is important to the conservation of the species because maintaining it will reduce the chance of losing the tidewater goby along this portion of the coast. It also allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. Furthermore, as described above in SB–2, we believe this unit, and units SB–2, SB–3, SB–4, and SB–5, likely act as a metapopulation as defined in the Background section, and that designation of critical habitat at these five locations is necessary for the conservation of the tidewater goby along the Gaviota Coast in Santa Barbara County.

On an intermittent basis, SB–6 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–7: Arroyo Hondo (1 ac (1 ha))*

This unit is located in Santa Barbara County, approximately 5.0 mi (8.0 km) east of Gaviota. This unit encompasses approximately 1 ac (1 ha), and consists entirely of private lands. SB–7 is located 5.0 mi (8.0 km) south of Gaviota Creek (SB–6), and is separated from the nearest extant population to the south, in Arroyo Quemado (not proposed as critical habitat), by 1.3 mi (2.0 km). This unit is outside the geographical area occupied by the species at the time of listing, but was subsequently found to

be occupied. This unit is essential for the conservation of the species because it provides habitat to nearby occupied units and could provide habitat for maintaining the tidewater goby metapopulation in the region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species. Although SB–7 was not considered to be occupied at the time of listing, it does possess the PCE that support tidewater goby. On an intermittent basis, SB–7 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SB–8: Winchester/Bell Canyon (6 ac (3 ha))*

This unit is located in Santa Barbara County, approximately 2.2 mi (3.5 km) west of the community of El Encanto Heights. The unit encompasses approximately 6 ac (3 ha), and consists of 1 ac (1 ha) of local lands and 5 ac (2 ha) of private lands. SB–8 is located 6.0 mi (9.6 km) north of Goleta Slough (SB–9), and is separated from the nearest extant population to the north, Tecolote Canyon (not proposed as critical habitat), by 0.3 mi (0.4 km). SB–8 was occupied at the time of listing. This unit is important to the conservation of the species because it allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region.

On an intermittent basis, SB–8 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–9: Goleta Slough (190 ac (76 ha))*

This unit is located in Santa Barbara County, within the City of Goleta. The unit encompasses approximately 190 ac (76 ha), and consists of 164 ac (66 ha) of local lands and 26 ac (10 ha) of private lands. SB–9 is located 6.0 mi (9.6 km) south of Winchester/Bell Canyon (SB–8), and is separated from the nearest extant population to the north, Devereux Slough (not proposed as critical habitat), by 4.0 mi (6.4 km). This unit is outside the geographical area occupied by the species at the time of listing, but is currently occupied. This unit is essential for the conservation of the species because it provides habitat for the species, allows for connectivity between tidewater goby source populations from nearby units, supports gene flow, and provides for metapopulation dynamics in this region. Although SB–9 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, SB–9 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SB–10: Arroyo Burro (3 ac (1 ha))*

This unit is located in Santa Barbara County, approximately 3.6 mi (5.8 km) west of the City of Santa Barbara. The unit encompasses approximately 3 ac (1 ha), and consists entirely of local lands. SB–10 is located 4.0 mi (6.4 km) north of Mission Creek-Laguna Channel (SB–11), which is also the nearest extant population. This unit is outside the geographical area occupied by the species at the time of listing, but was subsequently found to be occupied. This unit is essential for the conservation of the species because it provides habitat for the species, allows for connectivity between tidewater goby source populations from nearby units, supports gene flow, and provides for metapopulation dynamics in this region. Although SB–10 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, SB–10 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SB–11: Mission Creek-Laguna Channel (7 ac (3 ha))*

This unit is located in Santa Barbara County, within the City of Santa Barbara. The unit encompasses approximately 7 ac (3 ha), and consists of 3 ac (1 ha) of State lands and 4 ac (2 ha) of local lands. SB–11 is located 4.0 mi (6.4 km) south of Arroyo Burro (SB–10), and is separated from the nearest extant population to the south, in Sycamore Creek (not proposed as critical habitat), by 1.0 mi (1.5 km). SB–11 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast.

On an intermittent basis, SB–11 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*SB–12: Arroyo Paredon (4 ac (3 ha))*

This unit is located in Santa Barbara County, within the City of Santa Barbara. The unit encompasses approximately 4 ac (3 ha), and consists of 1 ac (1 ha) of State lands, 1 ac (1 ha) local lands, and 2 ac (1 ha) of private lands. SB–12 is located 8.0 mi (12.8 km) south of Mission Creek-Laguna Channel (SB–11), and is separated from the nearest extant population to the south, in Carpinteria Creek (not proposed as critical habitat), by 2.7 mi (4.3 km). This unit is outside the geographical area

occupied by the species at the time of listing, but was subsequently found to be occupied. This unit is essential for the conservation of the species because it provides habitat for the species, allows for connectivity between tidewater goby source populations from nearby units, supports gene flow, and provides for metapopulation dynamics in this region. Although SB–12 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, SB–12 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*VEN–1: Ventura River (50 ac (21 ha))*

This unit is located in Ventura County, within the City of Ventura. The unit encompasses approximately 50 ac (21 ha), and consists of 25 ac (10 ha) of State lands, 16 ac (7 ha) of local lands, and 9 ac (4 ha) of private lands. VEN–1 is located 4.3 mi (7.0 km) north of the Santa Clara River (VEN–2), which is also the nearest extant population. VEN–1 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. This critical habitat unit provides habitat for a tidewater goby population that is important to the conservation of one of the genetically distinct recovery units as described in the Recovery Plan (Dawson *et al.* 2001, p. 1172). Maintaining this unit will reduce the chance of losing the tidewater goby along this portion of the coast, and help conserve genetic diversity within the species.

On an intermittent basis, VEN–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*VEN–2: Santa Clara River (323 ac (130 ha))*

This unit is located in Ventura County, approximately 4 mi (6.4 km) southeast of the City of Ventura. This unit encompasses approximately 323 ac (130 ha), and consists of 199 ac (80 ha) of State lands, 14 ac (6 ha) of local lands, and 110 ac (44 ha) of private lands. VEN–2 is located 4.3 mi (7.0 km) south of the Ventura River unit (VEN–1), which is also the nearest extant population. VEN–2 was occupied by tidewater goby at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. VEN–2 unit will support the recovery of the tidewater goby population along this portion of the coast. This unit is known to have tens of thousands of tidewater goby during certain times of the year (C. Dellith, Service, pers. comm. 2010), and is considered one of the largest tidewater goby populations in southern California.

On an intermittent basis, VEN–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*VEN–3: J Street Drain-Ormond Lagoon (121 ac (49 ha))*

This unit is located in Ventura County, approximately 1 mi (1.6 km) east of Port Hueneme. This unit encompasses approximately 121 ac (49 ha), and consists of 5 ac (2 ha) of State lands, 49 ac (20 ha) of local lands, and 67 ac (27 ha) of private lands. VEN–3 is located 4.3 mi (6.9 km) south of the Santa Clara River (VEN–2), which is also the nearest extant population. VEN–3 was occupied at the time of listing. This unit allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. On an intermittent basis, VEN–3 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*VEN–4: Big Sycamore Canyon (1 ac (1 ha))*

This unit is located in Ventura County, approximately 12.0 mi (19.3 km) northwest of the City of Malibu. The unit encompasses approximately 1 ac (1 ha), and consists entirely of State lands. VEN–4 is located 5.0 mi (8.0 km) north of Arroyo Sequit (LA–1), and is separated from the nearest extant population to the north, in the Calleguas Creek (not proposed as critical habitat), by 5.0 mi (8.0 km). This unit is outside the geographical area occupied by the species at the time of listing, but was subsequently found to be occupied. This unit is essential for the conservation of the species because it provides habitat for the species, allows for connectivity between tidewater goby source populations from nearby units, supports gene flow, and provides for metapopulation dynamics in this region. Although VEN–4 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, VEN–4 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*LA–1: Arroyo Sequit (1 ac (1 ha))*

This unit is located in Los Angeles County, approximately 7.5 mi (12.0 km) northwest of the City of Malibu. The unit encompasses approximately 1 ac (1 ha), and consists entirely of State lands. LA–1 is located 5.0 mi (8 km) south of Big Sycamore Canyon (VEN–4), which is the nearest extant population. This unit is outside the geographical area occupied by the species at the time of listing, is not known to be currently occupied, and there are no historical tidewater goby records for this location. However, this unit is essential for the conservation of the species because it provides habitat to nearby occupied units and is identified in the Recovery Plan as a potential introduction site, and could provide habitat for maintaining the tidewater goby metapopulation in the region. This unit will provide habitat for tidewater goby that disperse from Big Sycamore Creek and the Malibu Lagoon, either through natural means or by reintroduction, which may serve to decrease the risk of extirpation of this metapopulation through stochastic events. This unit would also allow for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region.

Although LA–1 is not currently occupied, it does possess the PCE that could support tidewater goby. On an intermittent basis, LA–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*LA–2: Zuma Canyon (5 ac (2 ha))*

This unit is located in Los Angeles County, approximately 7.5 mi (12.0 km) northwest of the City of Malibu. The unit encompasses approximately 5 ac (2 ha), and consists entirely of local lands administered by Los Angeles County. LA–2 is located 6.8 mi (11 km) south of Arroyo Sequit (LA–1), and is separated from the nearest extant population to the south, in the Malibu Lagoon (LA–3), by 10.0 mi (16.0 km). LA–2 is outside the geographical area occupied by the species at the time of listing, is not known to be currently occupied, and there are no historical tidewater goby records for this location. However, this unit is essential for the conservation of the species because it provides habitat to nearby occupied units and is identified in the Recovery Plan as a potential introduction site, and could provide habitat for maintaining the tidewater goby metapopulation in the region. This unit will provide habitat for tidewater goby that disperse from Big Sycamore Creek and the Malibu Lagoon, either through natural means or by introduction, which may serve to decrease the risk of extirpation of this metapopulation through stochastic events. This unit would also allow for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region.

Although LA–2 is not currently occupied, it does possess the PCE that could support tidewater goby. On an intermittent basis, LA–2 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*LA–3: Malibu Lagoon (64 ac (27 ha))*

This unit is located in Los Angeles County, approximately 0.6 mi (1 km) east of Malibu Beach. The unit encompasses approximately 64 ac (27 ha), and consists of 41 ac (27 ha) of State lands, 1 ac (1 ha) of local lands, and 22 ac (9 ha) of private lands. LA–3 is located 6.0 mi (9.6 km) north of Topanga Canyon (LA–4), which is also the nearest extant population. LA–3 was occupied at the time of listing. The tidewater goby population in this unit is likely a source population for this region, and is therefore important for maintaining the metapopulation in this region. Maintaining this unit will also reduce the chance of losing the tidewater goby along this portion of the coast. LA–3 supports one of the two remaining extant populations of tidewater goby within Los Angeles County, and both areas supporting these populations have been proposed as critical habitat.

On an intermittent basis, LA–3 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation. The physical or biological features essential to the conservation of the species in this unit may require special management considerations or protection to address threats described in Table 3. Please see *Special Management Considerations or Protection* section of this rule for a discussion of the threats to tidewater goby habitat and potential management considerations.

*LA–4: Topanga Creek (6 ac (2 ha))*

This unit is located in Los Angeles County, approximately 5.5 mi (8.9 km) northwest of the City of Santa Monica. The unit encompasses approximately 6 ac (2 ha), and consists of 4 ac (1 ha) of State lands and 2 ac (1 ha) of private lands. LA–4 is located 6.0 mi (9.6 km) south of Malibu Creek (LA–3), which is also the nearest extant population. This unit is outside the geographical area occupied by the species at the time of listing, but is currently occupied. Tidewater goby were first detected at this locality in 2001 (Service 2005, p. C–30). Tidewater goby in Topanga Canyon are probably derived from fish that dispersed from Malibu Creek. This unit is essential for the conservation of the species because it allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics in this region. This location is one of the two remaining locations in Los Angeles County known to be occupied by tidewater goby.

Although LA–4 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, LA–4 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*OR–1: Aliso Creek (14 ac (5 ha))*

This unit is located in Orange County, within the City of Laguna Beach. The unit encompasses approximately 14 ac (6 ha), and consists of 8 ac (3 ha) of local lands and 6 ac (2 ha) of private lands. OR–1 is located 13.5 mi (21.7 km) north of the San Mateo Creek (not proposed as critical habitat, see *Application of Section 4(a)(3) of the Act—Marine Corps Base Camp Pendleton* section below), which supports the nearest extant population. This unit is outside the

geographical area occupied by the species at the time of listing, and is not known to be currently occupied. OR–1 was last known to be occupied in 1978 (Service 2005, p. C–31). However, this unit is essential for the conservation of the species because it would allow for connectivity and dispersal between tidewater goby source populations. This unit is identified in the Recovery Plan as a potential reintroduction site. If tidewater goby become established at this location, this unit's primary functions would be to ensure necessary metapopulation dynamics of tidewater goby and contribute to maintaining the genetic diversity of the genetically unique South Coast Recovery Unit. OR–1 will support the recovery of the tidewater goby populations by serving as an area suitable for reintroduction of tidewater goby near the northern extent of the South Coast Recovery Unit, and is likely important for maintaining the tidewater goby metapopulation in the region. The reason for the extirpation of the historical population at this site is unknown.

Although OR–1 is not currently occupied, it does possess the PCE that could support tidewater goby. On an intermittent basis, OR–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

*SAN–1: San Luis Rey River (56 ac (23 ha))*

This unit is located in San Diego County, within the City of Oceanside. The unit encompasses approximately 56 ac (23 ha), and consists of 3 ac (1 ha) of State lands, 49 ac (20 ha) of local lands, and 4 ac (2 ha) of private lands. SAN–1 is located approximately 2.5 mi (4.0 km) south of the Santa Margarita River (not proposed as critical habitat; see *Application of Section 4(a)(3) of the Act—Marine Corps Base Camp Pendleton* section below), which supports the nearest known extant population. This unit is outside the geographical area occupied by the species at the time of listing but is currently occupied. This unit is essential for the conservation of the species because it allows for connectivity between tidewater goby source populations, and thereby supports gene flow and metapopulation dynamics of the genetically unique South Coast Recovery Unit. SAN–1 will support the recovery of the tidewater goby population along this portion of the coast and may help facilitate colonization of currently unoccupied locations to the south identified in the Recovery Plan for the species. This unit will function as one of the southern extents of the metapopulation complex that is essential for the conservation of the species. Unit SAN–1 was identified in the Recovery Plan as a potential reintroduction site. Prior to 2010, tidewater goby were last detected in this unit in 1958 (K. Lafferty, University of California Santa Barbara, pers. comm. 2010). They have since re-colonized this area, presumably from one of the occupied areas on MCB Camp Pendleton following a storm event. This unit now represents the southernmost occupied area of the species' distribution, and is important for maintaining the tidewater goby metapopulation in the region.

Although SAN–1 was not considered to be occupied at the time of listing, it does possess the PCE that could support tidewater goby. On an intermittent basis, SAN–1 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions (PCE 1c). PCE 1a and 1b occur throughout the unit, although their precise location during any particular time period may change in response to seasonal fluctuations in precipitation and tidal inundation.

**Effects of Critical Habitat Designation**

*Section 7 Consultation*

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our regulatory 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, 442 (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 continue to serve its intended conservation role for the species.

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. Examples of actions that are subject to the section 7 consultation process are actions on State, tribal, local, or private lands that require 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 the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat, and actions on State, tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we document compliance with the requirements of section 7(a)(2) 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.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. 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 the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of 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 sometimes may 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.

*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. Activities that may destroy or adversely modify critical habitat are those that alter the physical or biological features to an extent that appreciably reduces the conservation value of critical habitat for tidewater goby. As discussed above, the role of critical habitat is to support 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 may affect critical habitat, when carried out, funded, or authorized by a Federal agency, should result in consultation for the tidewater goby. These activities include, but are not limited to:

(1) Actions such as channelization and water diversion that reduce the amount of space available for individual and population growth and normal behavior, and reduce or eliminate sites for breeding, reproduction, and rearing (or development) of offspring.

(2) Actions that substantially alter the natural hydrologic regime upstream of the designated critical habitat units. These activities could include, but are not limited to, ground water pumping or surface water diversion activities, construction of impoundments or flood control structures, or the release of water in excess of levels that historically occurred. Such activities could result in an atypical reduction or excess amount of water present in the aquatic habitats that tidewater goby occupy, and alter the salinity conditions that support this species.

(3) Actions that substantially alter the channel morphology of the designated critical habitat units or the areas up-gradient from these units. Such activities may include, but are not limited to, channelization projects, road and bridge projects, removal of substrates, destruction and alteration of riparian vegetation, reduction of available floodplain, and removal of gravel or floodplain terrace materials. Such activities could increase water velocities and flush large numbers of tidewater goby into the ocean, especially during flood events.

(4) Actions that result in the discharge of agricultural and sewage effluents, or chemical or biological pollutants, into the aquatic habitats where tidewater goby occur. Such activities have the ability to degrade the water quality where tidewater goby live, introduce toxic substances that can poison individual fish, adversely affect fish immune systems, and decrease the amount of oxygen in aquatic habitats where the species occurs.

(5) Actions that cause atypical levels of sedimentation in coastal wetland habitats or remove vegetative cover that stabilizes stream banks. Such activities could include, but are not limited to, grazing or mining activities, road construction projects, off-road vehicle use, and other watershed and floodplain disturbance activities. Such activities have the potential to alter the amount and composition of the substrate in the habitats where tidewater goby occur, and thereby affect the species' ability to construct breeding burrows.

(6) Actions that result in the artificial breaching of lagoon habitats. Such activities can reduce the amount of space available for individual and population growth; strand and desiccate tidewater goby adults, fry, or eggs; and increase the risk of predation by native or non-native predators as tidewater goby become concentrated and exposed as water levels drop.

(7) Actions that create barriers that prevent tidewater goby from accessing areas they would normally be able to access. These activities, which may include, but are not limited to, water diversions, road crossings, and sills, can reduce the amount of space available for individual and population growth, and reduce the number and extent of sites for breeding, reproduction, and rearing (or development) of offspring.

**Exemptions**

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

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

(1) An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;

(2) A statement of goals and priorities;

(3) A detailed description of management actions to be implemented to provide for these ecological needs; and

(4) A monitoring and adaptive management plan.

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

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

We consult with the military on the development and implementation of INRMPs for installations with listed species. We analyzed INRMPs developed by military installations located within the range of the proposed revised critical habitat designation for tidewater goby to determine if they are exempt under section 4(a)(3) of the Act.

Approved INRMPs

VAFB and MCB Camp Pendleton have approved INRMPs. The U.S. Air Force and Marine Corps (on VAFB and MCB Camp Pendleton, respectively) committed to working closely with us and California Department of Fish and Game (CDFG) (as well as CDPR) with regards to lands leased by MCB Camp Pendleton to continually refine the existing INRMPs as part of the Sikes Act's INRMP review process. Based on our review of the INRMPs for these military installations, and in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that the lands within these installations identified as meeting the definition of critical habitat are subject to the INRMPs, and that conservation efforts identified in these INRMPs will provide a benefit to the tidewater goby (see the following sections that detail this determination for each installation). Therefore, lands within these installations are exempt from critical habitat designation under section 4(a)(3)(B) of the Act. We are not including approximately 727 ac (294 ha) of habitat on Vandenberg Air Force Base, and approximately 989 ac (400 ha) of habitat on MCB Camp Pendleton, in this proposed revised critical habitat designation because of this exemption.

Table 4 below provides approximate areas (ac, ha) of lands that meet the definition of critical habitat, but are exempt from designation under section 4(a)(3)(B) of the Act.

TABLE 4—EXEMPTIONS FROM PROPOSED CRITICAL HABITAT DESIGNATION FOR THE TIDEWATER GOBY UNDER SECTION 4(a)(3) OF THE ACT

| Specific area | Areas Meeting the Definition of Critical Habitat in Acres (Hectares) | Areas Exempted in Acres (Hectares) |
|---|---|---|
| Shuman Canyon | 16 (7) | 16 (7) |
| San Antonio Creek | 63 (25) | 63 (25) |
| Santa Ynez River | 638 (258) | 638 (258) |
| Cañada Honda | 4 (2) | 4 (2) |
| Jalama Creek | 6 (2) | 6 (2) |
| San Mateo Creek | 73 (30) | 73 (30) |
| San Onofre Creek | 20 (8) | 20 (8) |
| Las Flores/Las Pulgas Creek | 36 (14) | 36 (14) |
| Hidden Lagoon | 39 (16) | 39 (16) |
| Aliso Canyon | 65 (26) | 65 (26) |
| French Lagoon | 60 (24) | 60 (24) |
| Cockleburr Canyon | 74 (30) | 74 (30) |
| Santa Margarita River | 789 (319) | 789 (319) |
| Totals | 1,833 (761) | 1,833 (761) |

Vandenberg Air Force Base

VAFB is headquarters for the 30th Space Wing, the Air Force's Space Command unit that operates VAFB and the Western Test Range/Pacific Missile Range. VAFB operates as an aerospace center supporting west coast launch activities for the Air Force, Department of Defense, National Aeronautics and Space Administration, and commercial contractors. The three primary operational missions of VAFB are to launch, place, and track satellites in near-polar orbit; to test and evaluate the intercontinental ballistic missile systems; and to support aircraft operations in the western range. VAFB lies on the south-central California coast, approximately 275 mi (442 km) south of San Francisco, 140 mi (225 km) northwest of Los Angeles, and 55 mi (88 km) northwest of Santa Barbara. The 99,100 ac (40,104 ha) base extends along approximately 42 mi (67 km) of Santa Barbara County coast, and varies in width from 5 to 15 mi (8 to 24 km).

The VAFB INRMP was prepared to provide strategic direction to ecosystem and natural resources management on VAFB. The long-term goal of the INRMP is to integrate all management activities in a manner that sustains, promotes, and restores the health and integrity of VAFB ecosystems using an adaptive management approach. The INRMP was designed to: (1) Summarize existing management plans and natural resources literature pertaining to VAFB; (2) identify and analyze management goals in existing plans; (3) integrate the management goals and objectives of individual plans; (4) support base compliance with applicable regulatory requirements; (5) support the integration of natural resource stewardship with the Air Force mission; and (6) provide direction for monitoring strategies.

VAFB completed an INRMP in 2011, which benefits tidewater goby by: (1) Avoiding tidewater goby and their habitat, whenever possible, in project planning; (2) scheduling activities that may affect tidewater goby outside of the peak breeding period (March to July); (3) coordinating with VAFB water quality staff to prevent degradation and contamination of aquatic habitats; and (4) prohibiting the introduction of nonnative fishes into streams on-base (VAFB 2011, Tab D, p. 15). Furthermore, VAFB's environmental staff reviews projects and enforces existing regulations and orders that, through their implementation, avoid and minimize impacts to natural resources, including tidewater goby and their habitat. In addition, VAFB's INRMP protects aquatic habitats for the tidewater goby by excluding cattle from wetlands and riparian areas through the installation and maintenance of fencing.

Habitat features essential to the conservation of the tidewater goby exist on VAFB, and activities occurring on VAFB are currently being conducted in a manner that minimizes impacts to tidewater goby habitat. This military installation has an approved INRMP that provides a benefit to the tidewater goby, and VAFB has committed to work closely with the Service and the CDFG to continually refine their existing

INRMP as part of the Sikes Act's INRMP review process. Therefore, based on the above considerations, and in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that conservation efforts identified in the 2011 INRMP for VAFB provide a benefit to the tidewater goby and its habitat. This includes habitat located in the following areas: Shuman Canyon, San Antonio Creek, Santa Ynez River, Cañada Honda, and Jalama Creek. Therefore, lands subject to the INRMP for VAFB, which includes the lands leased from the Department of Defense by other parties, are exempt from critical habitat designation under section 4(a)(3)(B) of the Act, and we are not including approximately 727 ac (294 ha) of habitat in this proposed revised critical habitat designation because of this exemption.

Marine Corps Base Camp Pendleton

MCB Camp Pendleton is the Marine Corps' premier amphibious training installation, and its only west coast amphibious assault training center. The installation has been conducting air, sea, and ground assault training since World War II. MCB Camp Pendleton occupies over 125,000 ac (50,586 ha) of coastal southern California in the northwest corner of San Diego County. Aside from nearly 10,000 ac (4,047 ha) that are developed, most of the installation consists of undeveloped land used for training. MCB Camp Pendleton is situated between two major metropolitan areas: Los Angeles, 82 mi (132 km) to the north, and San Diego, 38 mi (61 km) to the south. Nearby communities include Oceanside to the south, Fallbrook to the east, and San Clemente to the northwest. Aside from a portion of the installation's border that is shared with the San Mateo Wilderness Area and the Fallbrook Naval Weapons Station, the surrounding land use is urban development, rural residential development, and agricultural farming and ranching. The largest single leaseholder on the installation is California State Parks, which includes a 50-year real estate lease granted on September 1, 1971, for 2,000 ac (809 ha) that encompass San Onofre State Beach.

The MCB Camp Pendleton INRMP is a planning document that guides the management and conservation of natural resources under the installation's control. The INRMP was prepared to assist installation staff and users in their efforts to conserve and rehabilitate natural resources consistent with the use of MCB Camp Pendleton to train Marines and set the agenda for managing natural resources on MCB Camp Pendleton. MCB Camp Pendleton completed its INRMP in 2001, followed by a revised and updated version in 2007 to address conservation and management recommendations within the scope of the installation's military mission, including conservation measures for tidewater goby (MCB Camp Pendleton 2007, Appendix F, Section F.22, pp. F–78–F–85). Additionally, according to the 2007 INRMP, California State Parks is required to conduct its natural resources management consistent with the philosophies and objectives of the revised 2007 INRMP (MCB Camp Pendleton 2007, Chapter 2, p. 31).

Tidewater goby receives programmatic protection from training and other installation activities within the estuarine component of its habitat, as outlined and required in both the Estuarine and Beach Ecosystem Conservation Plan and the Riparian Ecosystem Conservation Plan (MCB Camp Pendleton 2007, Appendices B and C, respectively). Management and protection measures that benefit tidewater goby identified in Appendix B of the INRMP include, but are not limited to, the following: (1) Maintaining connectivity of beach and estuarine ecosystems with riparian and upland ecosystems; (2) promoting natural hydrological processes to maintain estuarine water quality and quantity; (3) maximizing the probability of tidewater goby metapopulation existence within the lagoon complex (MCB Camp Pendleton 2007, Appendix B, pp. B5–B7). Management and protection measures that benefit tidewater goby identified in Appendix C of the INRMP include, but are not limited to, the following: (1) Eliminating nonnative invasive species (such as *Arundo donax* (giant reed)) on the installation and off the installation in partnership with upstream landowners to enhance ecosystem value; (2) providing viable riparian corridors and promoting connectivity of native riparian habitats; (3) providing for unimpeded hydrologic and sedimentary floodplain dynamics to support the maintenance and enhancement of biota; (4) maintaining natural floodplain processes and extent of these areas by avoiding and minimizing further permanent loss of floodplain habitats; (5) maintaining to the maximum extent possible natural flood regimes; (6) maintaining to the extent practicable stream and river flows needed to support riparian habitat; (7) monitoring and maintaining groundwater levels and basin withdrawals to avoid loss and degradation of habitat quality; (8) restoring areas to their original condition after disturbance, such as following project construction or fire damage; and (9) promoting increased tidewater goby populations in watersheds through perpetuation of natural ecosystem processes and programmatic instruction application for avoidance and minimization of impacts (MCB Camp Pendleton 2007, Appendix C, pp. C5–C8).

Current environmental regulations and restrictions apply to all threatened and endangered species on the installation (including tidewater goby) and are provided to all users of ranges and training areas to guide activities and protect the species and its habitat. First, specific conservation measures are applied to tidewater goby and its habitat that include: (1) Controlling nonnative animal species (such as bullfrogs) and nonnative plant species (such as *Arundo donax* and *Rorippa* spp. (watercress)); and (2) restricting military-related traffic use within riparian areas to existing roads, trails, and crossings. Second, MCB Camp Pendleton's environmental security staff review projects and enforce existing regulations and orders that, through their implementation, avoid and minimize impacts to natural resources, including tidewater goby and its habitat. Third, MCB Camp Pendleton provides training to personnel on environmental awareness for sensitive resources on the base, including tidewater goby and its habitat. As a result of these regulations and restrictions, activities occurring on MCB Camp Pendleton are currently conducted in a manner that minimizes impacts to tidewater goby habitat.

MCB Camp Pendleton's INRMP also benefits tidewater goby through ongoing monitoring and research efforts. The installation conducts monitoring of tidewater goby populations at least once every 3 years, and also conducts monitoring to determine impacts of relocation of effluent infiltration ponds (MCB Camp Pendleton 2007, Appendix B, p. B8). Data are provided to all necessary personnel through MCB Camp Pendleton's GIS database on sensitive resources and in their published resource atlas. Additionally, MCB Camp Pendleton collaborated with the U.S. Geological Survey's Biological Resources Division to develop and implement a rigorous science-based monitoring protocol for tidewater goby populations throughout the installation, including monitoring water quality variables at all historically occupied sites regardless of current occupation status (Lafferty 2010, pp. 10–11).

Based on the above considerations, and in accordance with section 4(a)(3)(B)(i) of the Act, we have

determined that conservation efforts identified in the 2007 INRMP for MCB Camp Pendleton provide a benefit to tidewater goby and its habitat. This includes habitat located in the following areas: San Mateo Creek, San Onofre Creek, Las Flores/Las Pulgas Creek, Hidden Lagoon, Aliso Canyon, French Lagoon, Cockleburr Canyon, and Santa Margarita River (names of areas follow those used in the Recovery Plan (Service 2005, pp. B21–22)). Therefore, lands subject to the INRMP for MCB Camp Pendleton, which includes the lands leased from the Department of Defense by other parties, are exempt from critical habitat designation under section 4(a)(3)(B) of the Act, and we are not including approximately 989 ac (400 ha) of habitat in this proposed revised critical habitat designation because of this exemption.

**Exclusions**

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

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, we may exclude an area from designated critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. In considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the Secretary may exercise his discretion to exclude the area only if such exclusion would not result in the extinction of the species.

Exclusions Based on Economic Impacts

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. In order to consider economic impacts, we are preparing an analysis of the economic impacts of the proposed critical habitat designation and related factors.

On January 9, 2008, a final analysis of the potential economic effects of the November 26, 2006, proposed revised designation (71 FR 68914) was completed, taking into consideration public comments and any new information. The economic analysis considered the potential economic effects of actions relating to the conservation of the tidewater goby, including costs associated with sections 4, 7, and 10 of the Act, and including those attributable to the designation of critical habitat. It further considered the economic effects of protective measures taken as a result of other Federal, State, and local laws that aid habitat conservation for the tidewater goby in areas containing features essential to the conservation of the species. The analysis considered both economic efficiency and distributional effects. In the case of habitat conservation, efficiency effects generally reflect the ''opportunity costs'' associated with the commitment of resources to comply with habitat protection measures (such as lost economic opportunities associated with restrictions on land use).

The September 25, 2007, **Federal Register** notice (72 FR 54411) provided a detailed economics section for the areas proposed as critical habitat for the tidewater goby. The analysis estimated post-designation costs associated with conservation efforts for the tidewater goby to be approximately $25 million (undiscounted) over the next 20 years (2007 to 2026) as a result of the proposed revised designation of critical habitat. Discounted future costs were estimated to be approximately $22 million ($1.5 million annualized) at a 3 percent discount rate or approximately $20 million ($1.8 million annualized) at a 7 percent discount rate.

Appendix B of the final economic analysis estimated the potential incremental impacts of critical habitat designation for the tidewater goby. It did so by attempting to isolate those direct and indirect impacts that are expected to be triggered specifically by the critical habitat designation. The incremental conservation efforts and associated impacts included in Appendix B would not be expected to occur absent the designation of critical habitat for the tidewater goby. Total present value potential incremental impacts were estimated to be $206,000 discounted at 3 percent. All other impacts quantified in the final economic analysis were considered baseline impacts, and were not expected to be affected by the critical habitat designation.

We will announce the availability of the revised draft economic analysis for this proposal as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at *http://www.regulations.gov,* or by contacting the Ventura Fish and Wildlife Office directly (see **FOR FURTHER INFORMATION CONTACT** section). During the development of a final designation, we will consider economic impacts, public comments, and other new information, and areas that may be excluded from the final critical habitat designation under section 4(b)(2) of the Act and our implementing regulations at 50 CFR 424.19.

Exclusions Based on National Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the Department of Defense where a national security impact might exist. In preparing this proposal, we have determined that the lands within the proposed designation of critical habitat for tidewater goby are not owned or managed by the Department of Defense, and, therefore, we anticipate no impact on national security. Consequently, the Secretary is not currently considering exercising his discretion to exclude any areas from the final designation based on impacts on national security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts in addition to economic impacts and impacts on national security. We consider a number of factors, including whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any tribal issues, and consider the government-to-government relationship of the United States with tribal entities. We also consider any social impacts that might occur because of the designation.

In preparing this proposal, we have determined that there are currently no HCPs or other management plans for tidewater goby, and the proposed revised designation does not include any tribal lands or trust resources. We anticipate no impact on tribal lands, partnerships, or HCPs from this proposed critical habitat designation. Accordingly, the Secretary is not currently considering exercising his discretion to exclude any areas from the final designation based on other relevant impacts.

**Peer Review**

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

We will consider all comments and information we receive during this comment period on this proposed rule during our preparation of a final determination. Accordingly, the final decision may differ from this proposal.

**Public Hearings**

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days after the date of publication of this proposed rule in the **Federal Register**. Such requests must be sent to the address shown in the **ADDRESSES** section. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing.

**Required Determinations**

*Regulatory Planning and Review—Executive Order 12866*

The Office of Management and Budget (OMB) has determined that this proposed rule is not significant and has not reviewed this proposed rule under Executive Order 12866 (Regulatory Planning and Review). 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 must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the 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.

We will prepare a new economic analysis for this proposed revised critical habitat designation for the tidewater goby. At this time, we lack the available economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, we defer the RFA finding until completion of the draft economic analysis prepared under section 4(b)(2) of the Act and Executive Order 12866. This draft economic analysis will provide the required factual basis for the RFA finding. Upon completion, we will announce availability of the draft economic analysis of the proposed designation in the **Federal Register** and reopen the public comment period for the proposed designation. We will include with this announcement, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination.

An analysis of the economic impacts of the 2006 proposed revised critical habitat designation was made available to the public on September 25, 2007 (72 FR 54411), and finalized in the final rule to designate critical habitat published in the **Federal Register** on January 31, 2008 (73 FR 5920). In our economic analysis of that designation (73 FR 5920, p. 5951), we evaluated small business entities in five categories: Water management, grazing, transportation, natural resource management, and oil and gas pipeline construction and maintenance. Based on the results of the analysis, incremental impacts are associated with additional administrative costs of section 7 consultations in water management, transportation, natural resource management, and oil and gas pipeline construction and maintenance. No additional project modification costs were expected to result from the designation. All impacts quantified in our economic analysis, other than the incremental portion of administrative costs, were forecasted to occur regardless of critical habitat designation for the tidewater goby. Additional administrative costs resulting from this designation were expected to be borne by various public agencies, including the Service, the U.S. Army Corps of Engineers, California State departments, and various California city and county governments; however, none of these qualified as small entities. Del Norte County, which was the only county containing proposed critical habitat that qualified as a small entity, was not expected to bear any incremental impacts of tidewater goby conservation from the critical habitat designation. Therefore, this analysis did not anticipate any impacts to small entities. However, the economic analysis prepared for the 2008 critical habitat designation does not accurately reflect the full range of potential economic impacts that may result from this proposed revision to tidewater goby critical habitat.

We have concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that we make a sufficiently informed determination based on adequate economic information and provide the necessary opportunity for public comment.

*Energy Supply, Distribution, or Use—Executive Order 13211*

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects

when undertaking certain actions. Based on an analysis conducted for the previous designation of critical habitat and extrapolated to this designation, along with a further analysis of the additional areas included in this revision, we have determined that this proposed rule to revise critical habitat for the tidewater goby is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

*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 tribal 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 tribal 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; Aid to Families with Dependent Children 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 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. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

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

*Takings—Executive Order 12630*

In accordance with Executive Order 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), this rule is not anticipated to have significant takings implications. As discussed above, the designation of critical habitat affects only Federal actions. Although private parties that receive Federal funding, or assistance, or 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. Due to current public knowledge of the species protections both within and outside of the proposed areas, we do not anticipate that property values would be affected by the critical habitat designation. However, we have not yet completed the economic analysis for this proposed rule. Once the economic analysis is available, we will review and revise this preliminary assessment as warranted, and prepare a Takings Implication Assessment.

*Federalism—Executive Order 13132*

In accordance with Executive Order 13132 (Federalism), this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in California. The designation of critical habitat in areas currently occupied by the tidewater goby may impose nominal additional regulatory restrictions to those currently in place and, therefore, may have little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments because the areas that contain the physical or biological features essential to the conservation of the species are more clearly defined, the elements of the features of the habitat necessary to the conservation of the species are specifically identified, and the areas that are otherwise essential for the conservation of the species are also identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

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

*Civil Justice Reform—Executive Order 12988*

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial

system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies the elements of physical or biological features essential to the conservation of the tidewater goby within the designated areas to assist the public in understanding the habitat needs of the species.

*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 (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 pursuant to the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

*Clarity of the Rule*

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

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

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

*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), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), 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 that meet the definition of critical habitat. Therefore, we are not proposing to designate critical habitat for the tidewater goby on tribal lands.

**References Cited**

A complete list of references cited is available on the Internet at *http://www.regulations.gov* and upon request from the Ventura Field Office (see **FOR FURTHER INFORMATION CONTACT**).

**Authors**

The primary authors of this package are the staff members of the Ventura Fish and Wildlife Office.

**List of Subjects in 50 CFR Part 17**

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

**Proposed Regulation Promulgation**

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

## PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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 ''Tidewater Goby *(Eucyclogobius newberryi)*'' under ''FISHES'' to read as follows:

**§ 17.95 Critical habitat—fish and wildlife.**

* * * * *

(e) *Fishes.*

* * * * *

Tidewater Goby *(Eucyclogobius newberryi)*

(1) Critical habitat units are depicted for Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties, California, on the maps below.

(2) Within these areas, the primary constituent element of the physical or biological features essential to the conservation of tidewater goby consists of persistent, shallow (in the range of approximately 0.3 to 6.6 ft (0.1 to 2 m)), still-to-slow-moving lagoons, estuaries, and coastal streams ranging in salinity from 0.5 ppt to 12 ppt, which provide adequate space for normal behavior and individual and population growth, that contain:

(i) Substrates (e.g., sand, silt, mud) suitable for the construction of burrows for reproduction;

(ii) Submerged and emergent aquatic vegetation, such as *Potamogeton pectinatus, Ruppia maritima, Typha latifolia,*and *Scirpus* spp., that provides protection from predators and high flow events; or

(iii) Presence of a sandbar(s) across the mouth of a lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, thereby providing relatively stable water levels and salinity.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas), and the land on which they are located, existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created for most units using National Wetlands Inventory (NWI) data (both published data available over the Internet and in-publication provisional data). Where NWI data was lacking, unit boundaries were digitized directly on imagery from the Department of Agriculture's National Aerial Imagery Program data (NAIP) acquired in 2005. NAIP and NWI data were projected to Universal Transverse Mercator (UTM), zones 10

and 11, on the North American Datum of 1983.

(5) **Note:** Index map of critical habitat units for tidewater goby *(Eucyclogobius newberryi)* in Northern California, follows:

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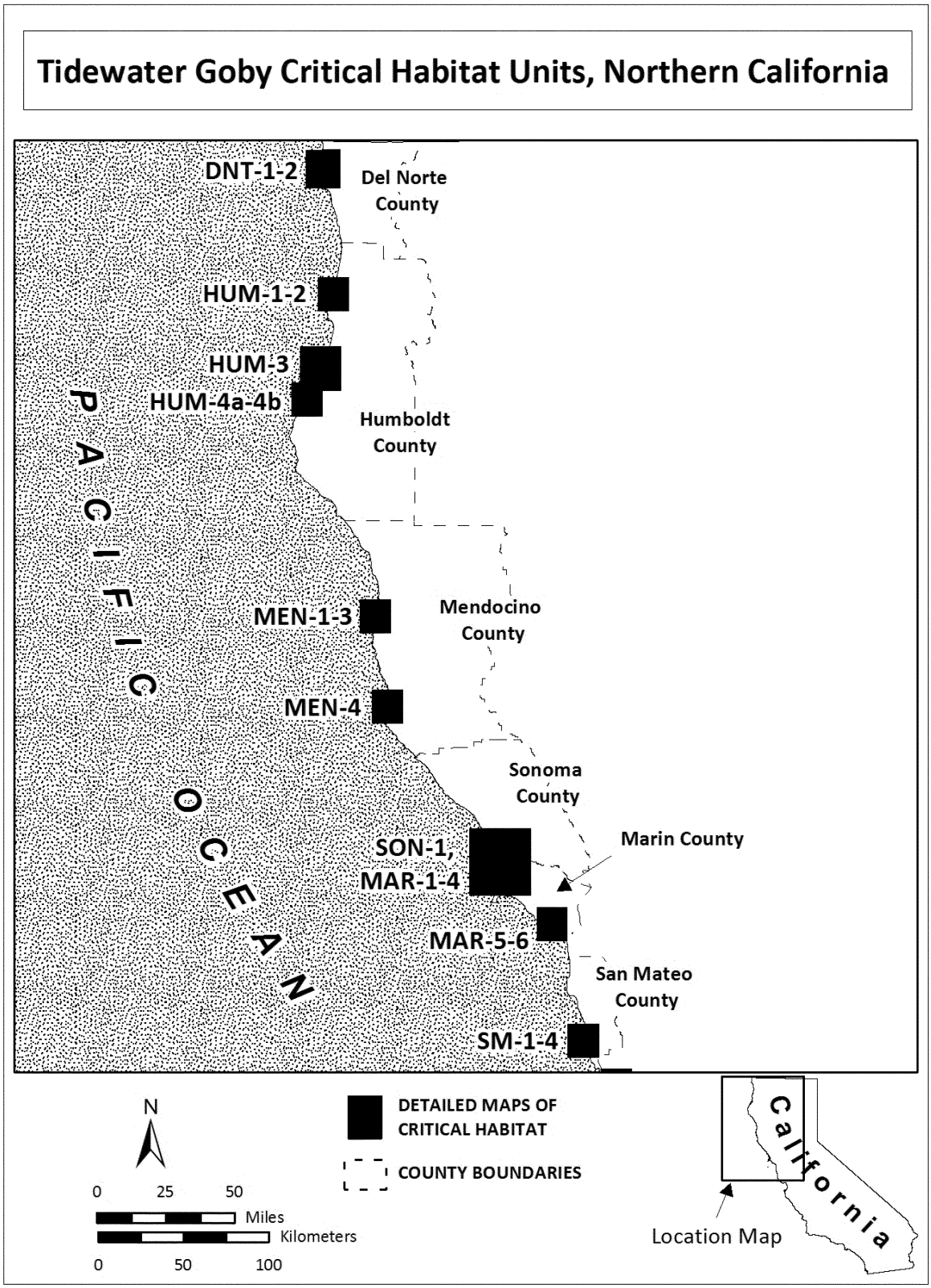
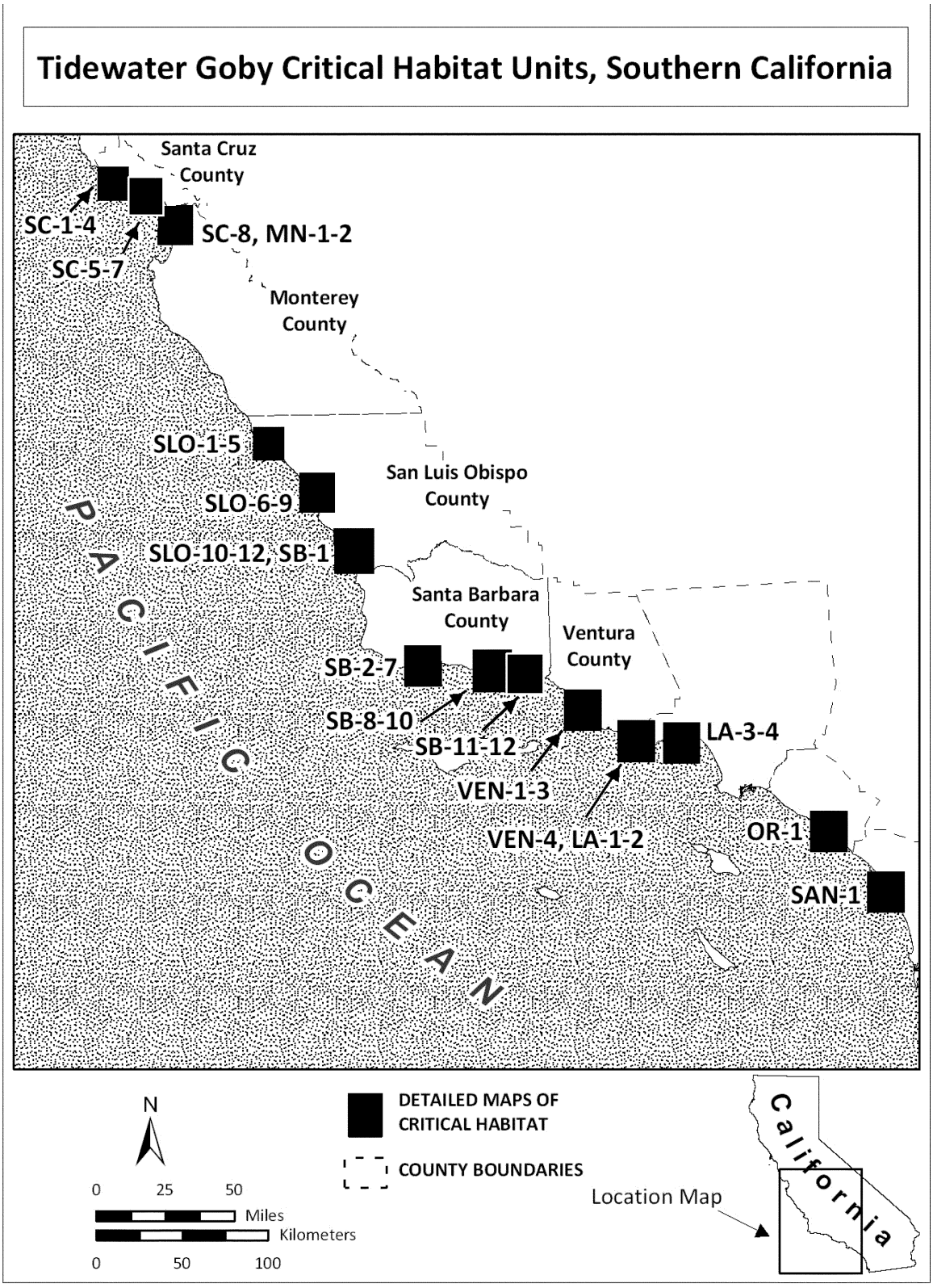


(6) **Note:** Index map of critical habitat units for tidewater goby *(Eucyclogobius newberryi)* in Southern California, follows:



(7) Unit DN–1: Tillas Slough, Del Norte County, California.

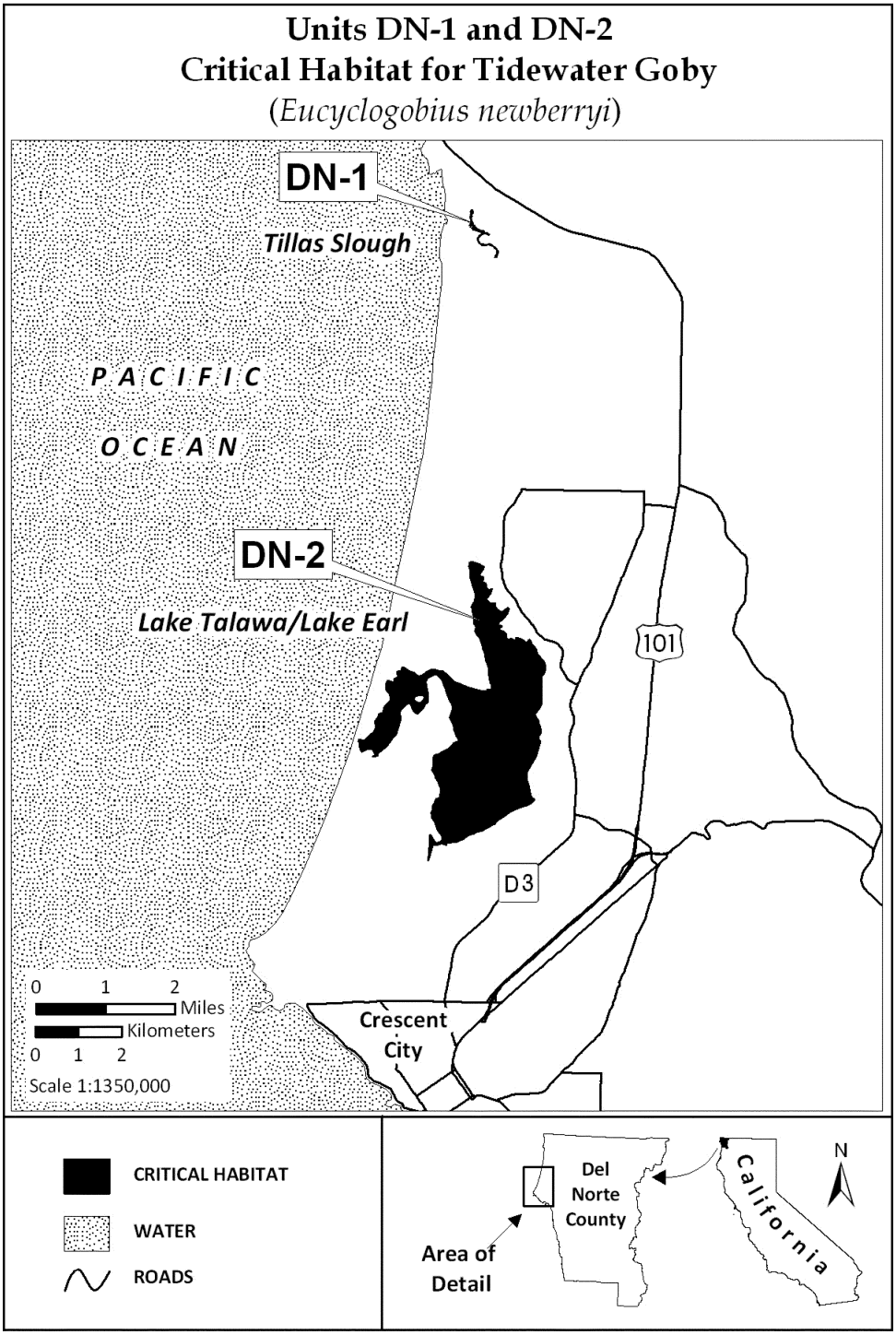
(i) [Reserved for textual description of Unit DN–1: Tillas Slough, Del Norte County, California]

(ii) **Note:** Map of Unit DN–1: Tillas Slough, Del Norte County, California, is depicted on the map in paragraph (8)(ii) of this entry.

(8) Unit DN–2: Lake Earl/Lake Tolowa, Del Norte County, California.

(i) [Reserved for textual description of Unit DN–2: Lake Earl/Lake Tolowa, Del Norte County, California]

(ii) **Note:** Map of Unit DN–1: Tillas Slough and Unit DN–2: Lake Earl/Lake Tolowa, Del Norte County, California, follows:



(9) Unit HUM–1: Stone Lagoon, Humboldt County, California.

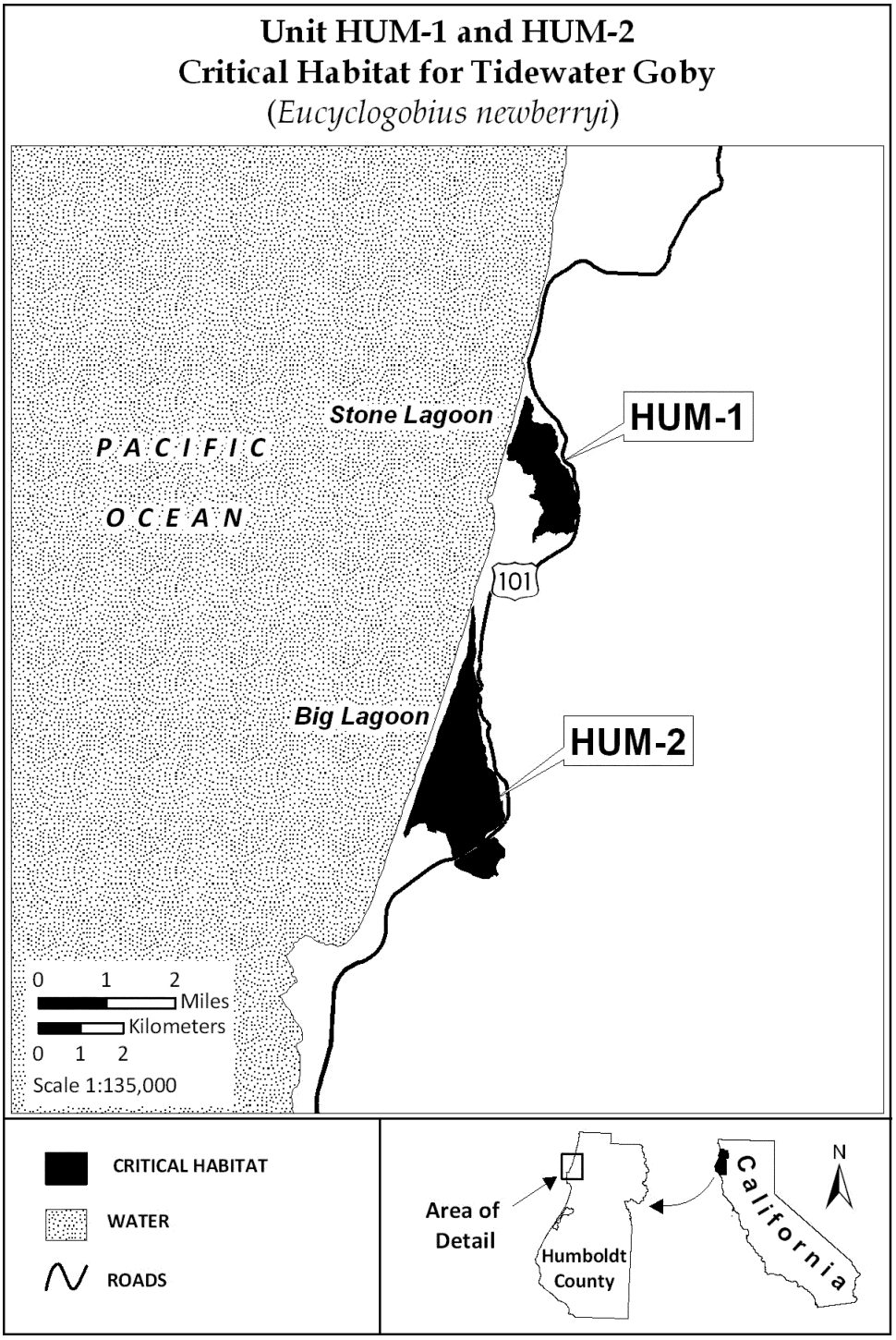
(i) [Reserved for textual description of Unit HUM–1: Stone Lagoon, Humboldt County, California]

(ii) **Note:** Map of Unit HUM–1: Stone Lagoon, Humboldt County, California, is depicted on the map in paragraph (10)(ii) of this entry.

(10) Unit HUM–2: Big Lagoon, Humboldt County, California.

(i) [Reserved for textual description of Unit HUM–2: Big Lagoon, Humboldt County, California]

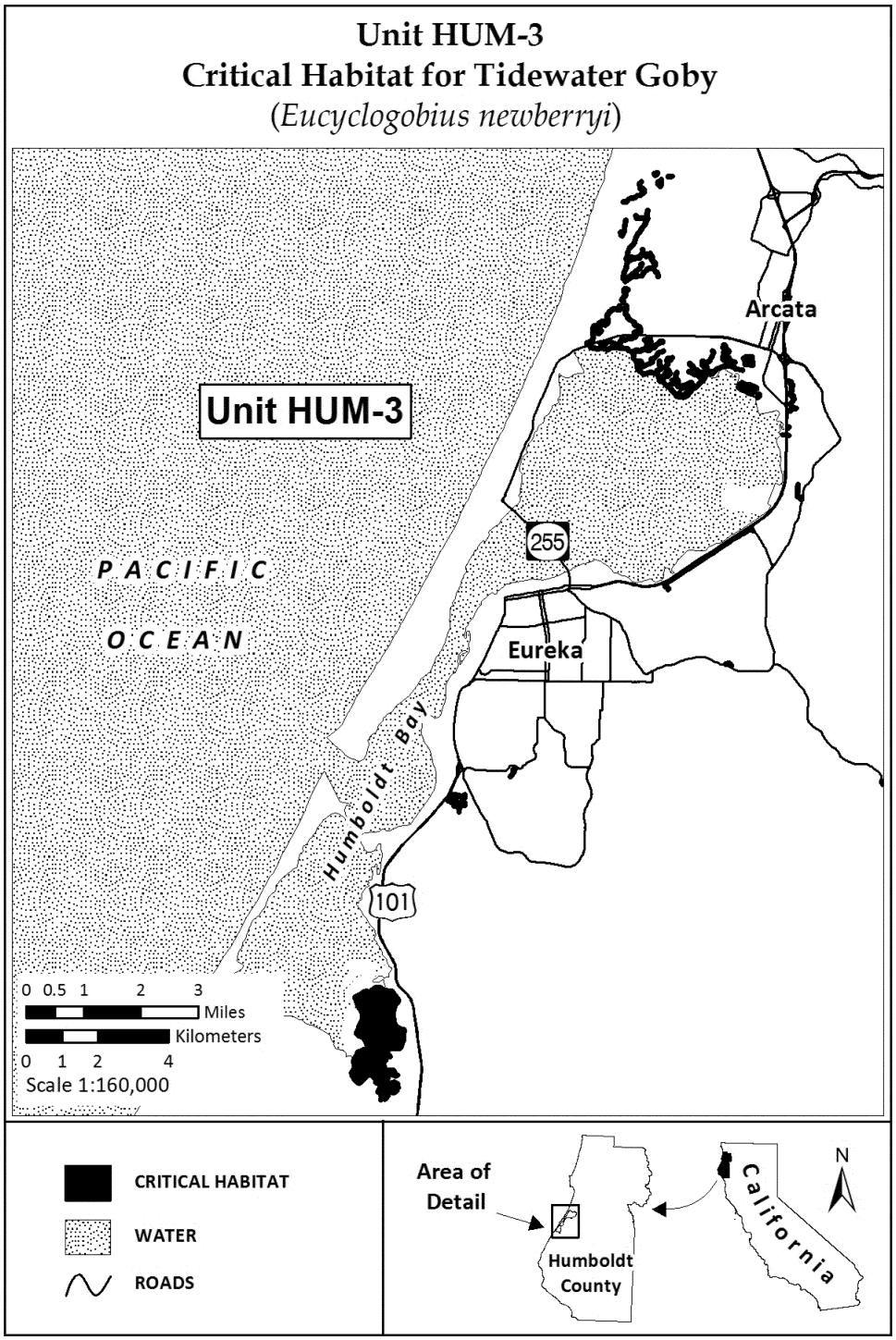
(ii) **Note:** Map of Unit HUM–1: Stone Lagoon and Unit HUM–2: Big Lagoon, Humboldt County, California, follows:



(11) Unit HUM–3: Humboldt Bay, Humboldt County, California.

(i) [Reserved for textual description of Unit HUM–3: Humboldt Bay, Humboldt County, California]

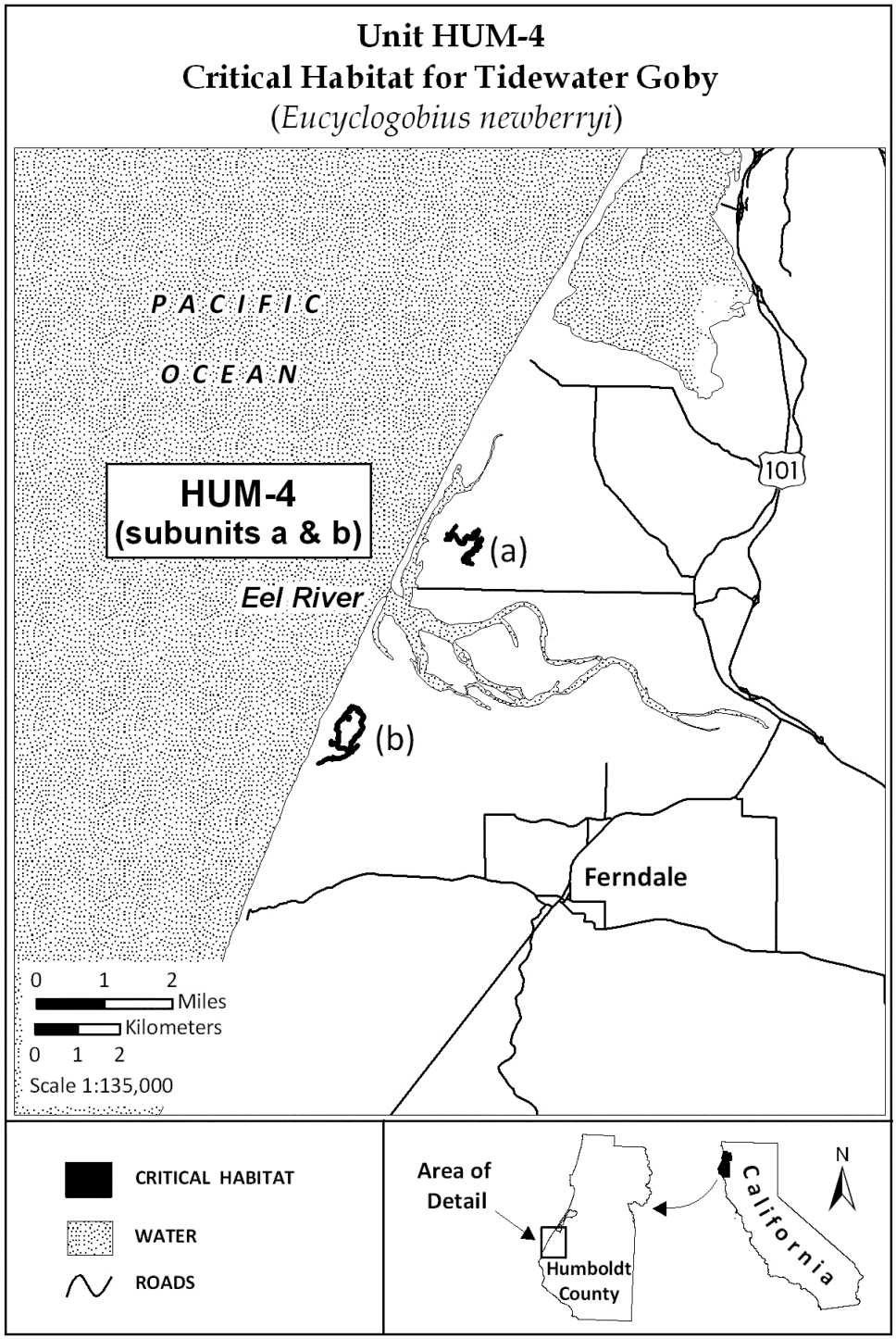
(ii) **Note:** Map of Unit HUM–3: Humboldt Bay, Humboldt County, California, follows:



(12) Unit HUM–4: Eel River, Humboldt County, California.

(i) [Reserved for textual description of Unit HUM–4: Eel River, Humboldt County, California]

(ii) **Note:** Map of Unit HUM–4: Eel River, Humboldt County, California, follows:



(13) Unit MEN–1: Ten Mile River, Mendocino County, California.

(i) [Reserved for textual description of Unit MEN–1: Ten Mile River, Mendocino County, California]

(ii) **Note:** Map of Unit MEN–1: Ten Mile River, Mendocino County, California, is depicted on the map in paragraph (15)(ii) of this entry.

(14) Unit MEN–2: Virgin Creek, Mendocino County, California.

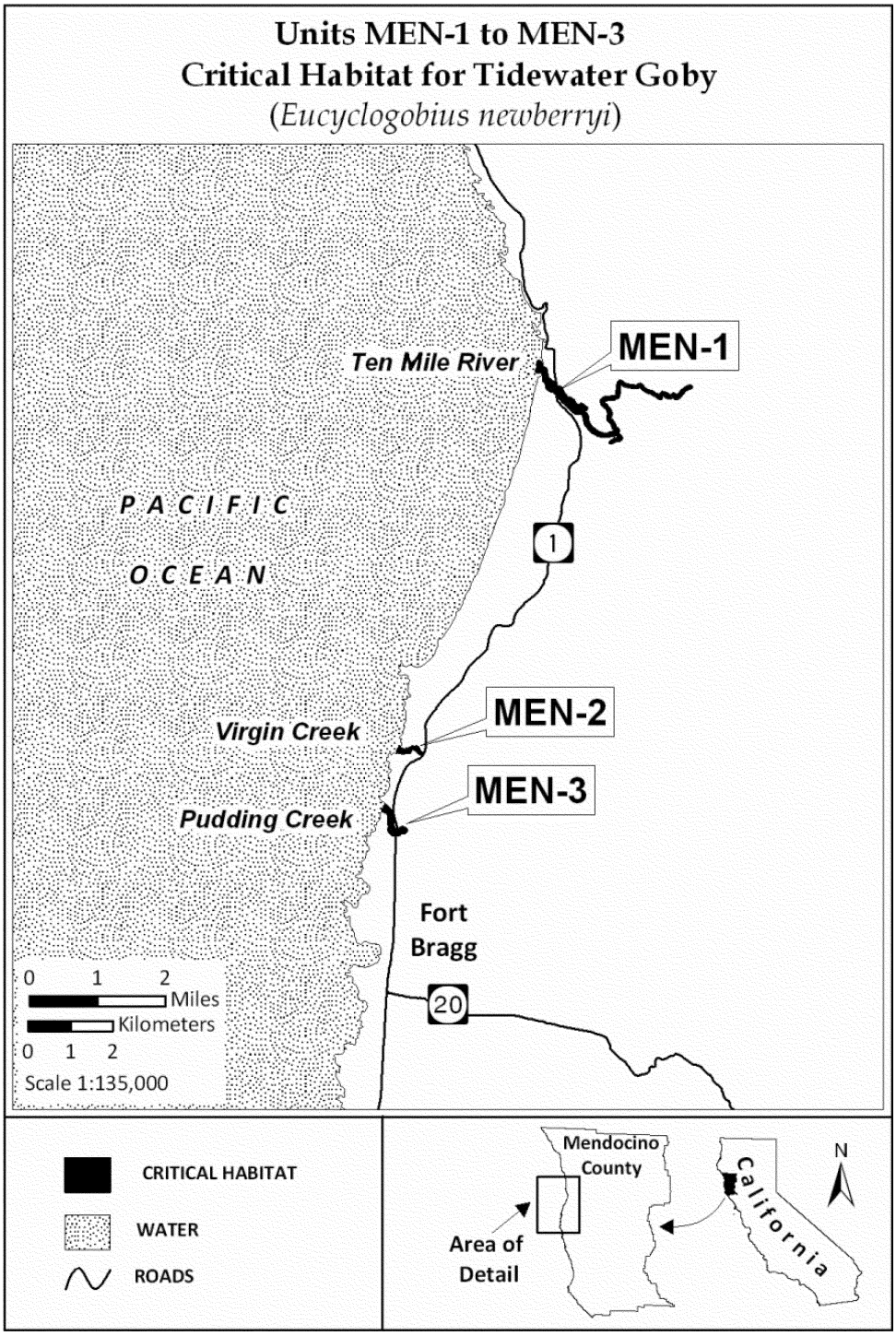
(i) [Reserved for textual description of Unit MEN–2: Virgin Creek, Mendocino County, California]

(ii) **Note:** Map of Unit MEN–2: Virgin Creek, Mendocino County, California, is depicted on the map in paragraph (15)(ii) of this entry.

(15) Unit MEN–3: Pudding Creek, Mendocino County, California.

(i) [Reserved for textual description of Unit MEN–3: Pudding Creek, Mendocino County, California]

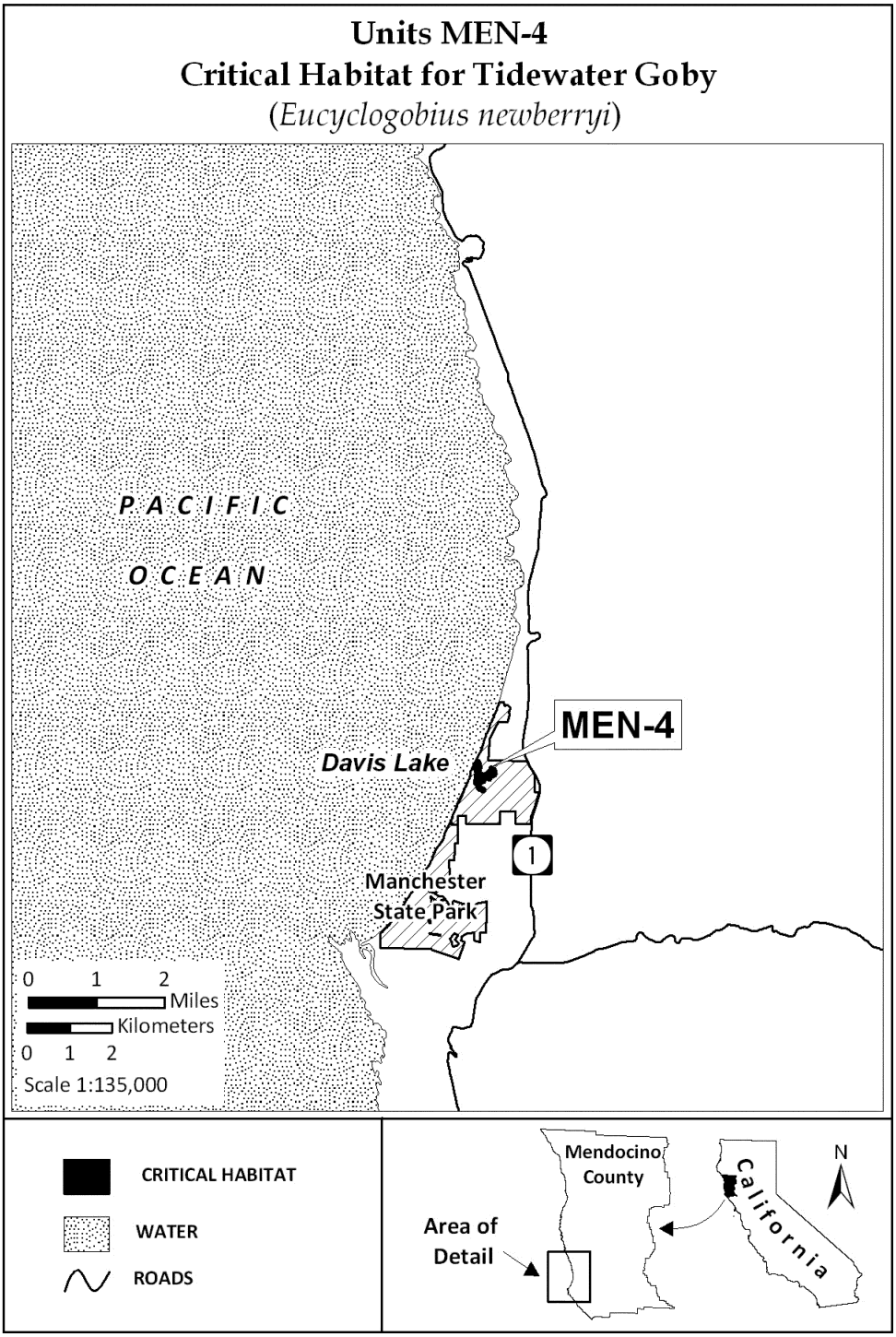
(ii) **Note:** Map of Unit MEN–1: Ten Mile River, Unit MEN–2: Virgin Creek, and Unit MEN–3: Pudding Creek, Mendocino County, California, follows:



(16) Unit MEN–4: Davis Lake/Manchester State Park Ponds, Mendocino County, California.

(i) [Reserved for textual description of Unit MEN–4: Davis Lake/Manchester State Park Ponds, Mendocino County, California]

(ii) **Note:** Map of Unit MEN–4: Davis Lake/Manchester State Park Ponds, Mendocino County, California, follows:



(17) Unit SON–1: Salmon Creek, Sonoma County, California.

(i) [Reserved for textual description of Unit SON–1: Salmon Creek, Sonoma County, California]

(ii) **Note:** Map of Unit SON–1: Salmon Creek, Sonoma County, California, is depicted on the map in paragraph (21)(ii) of this entry.

(18) Unit MAR–1: Estero Americano, Marin County, California.

(i) [Reserved for textual description of Unit MAR–1: Estero Americano, Marin County, California]

(ii) **Note:** Map of Unit MAR–1: Estero Americano, Marin County, California, is depicted on the map in paragraph (21)(ii) of this entry.

(19) Unit MAR–2: Estero De San Antonio, Marin County, California.

(i) [Reserved for textual description of Unit MAR–2: Estero De San Antonio, Marin County, California]

(ii) **Note:** Map of Unit MAR–2: Estero De San Antonio, Marin County, California, is depicted on the map in paragraph (21)(ii) of this entry.

(20) Unit MAR–3: Walker Creek, Marin County, California.

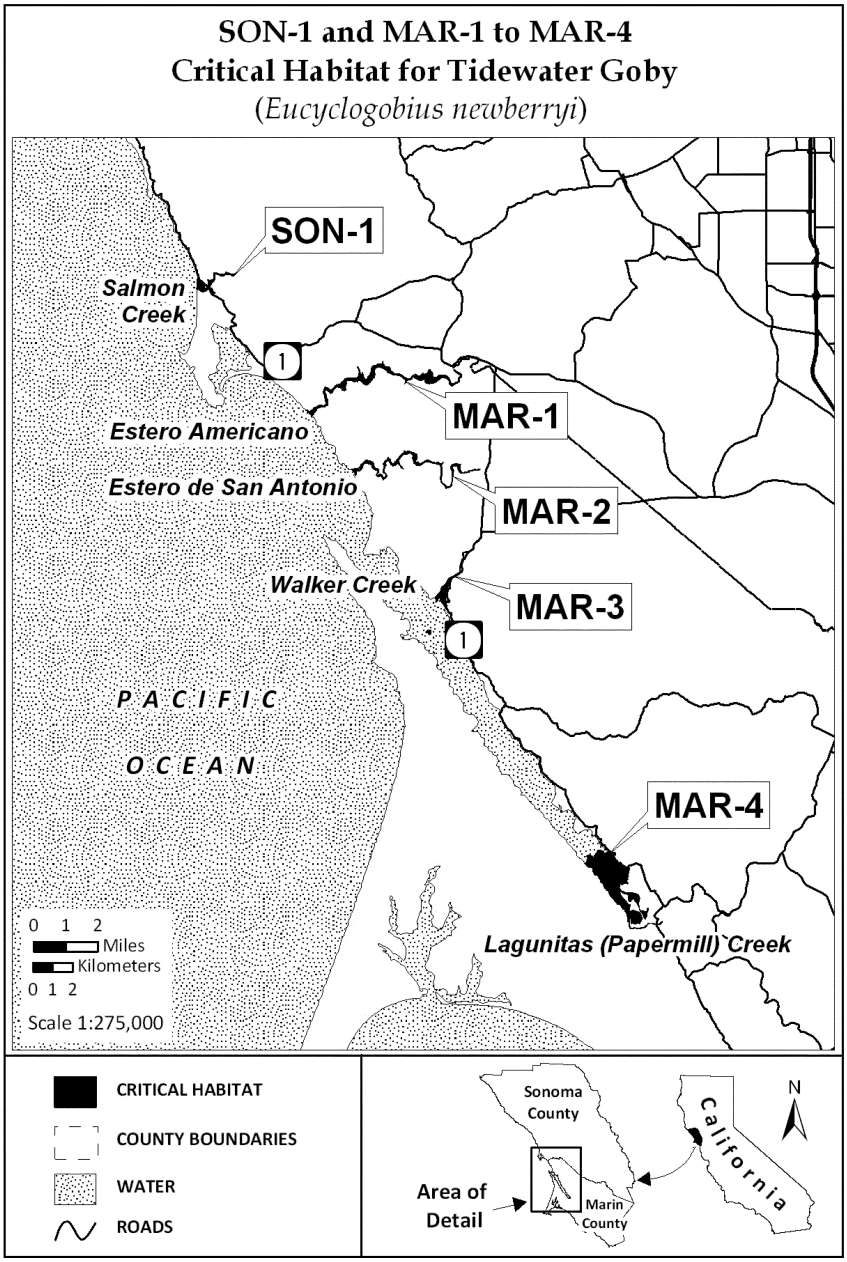
(i) [Reserved for textual description of Unit MAR–3: Walker Creek, Marin County, California]

(ii) **Note:** Map of Unit MAR–3: Walker Creek, Marin County, California, is depicted on the map in paragraph (21)(ii) of this entry.

(21) Unit MAR–4: Lagunitas (Papermill) Creek, Marin County, California.

(i) [Reserved for textual description of Unit MAR–4: Lagunitas (Papermill) Creek, Marin County, California]

(ii) **Note:** Map of Unit SON–1: Salmon Creek, Sonoma County, California, Unit MAR–1: Estero Americano, Unit MAR–2: Estero De San Antonio, Unit MAR–3: Walker Creek, and Unit MAR–4: Lagunitas Creek, Marin County, California, follows:



(22) Unit MAR–5: Bolinas Lagoon, Marin County, California.

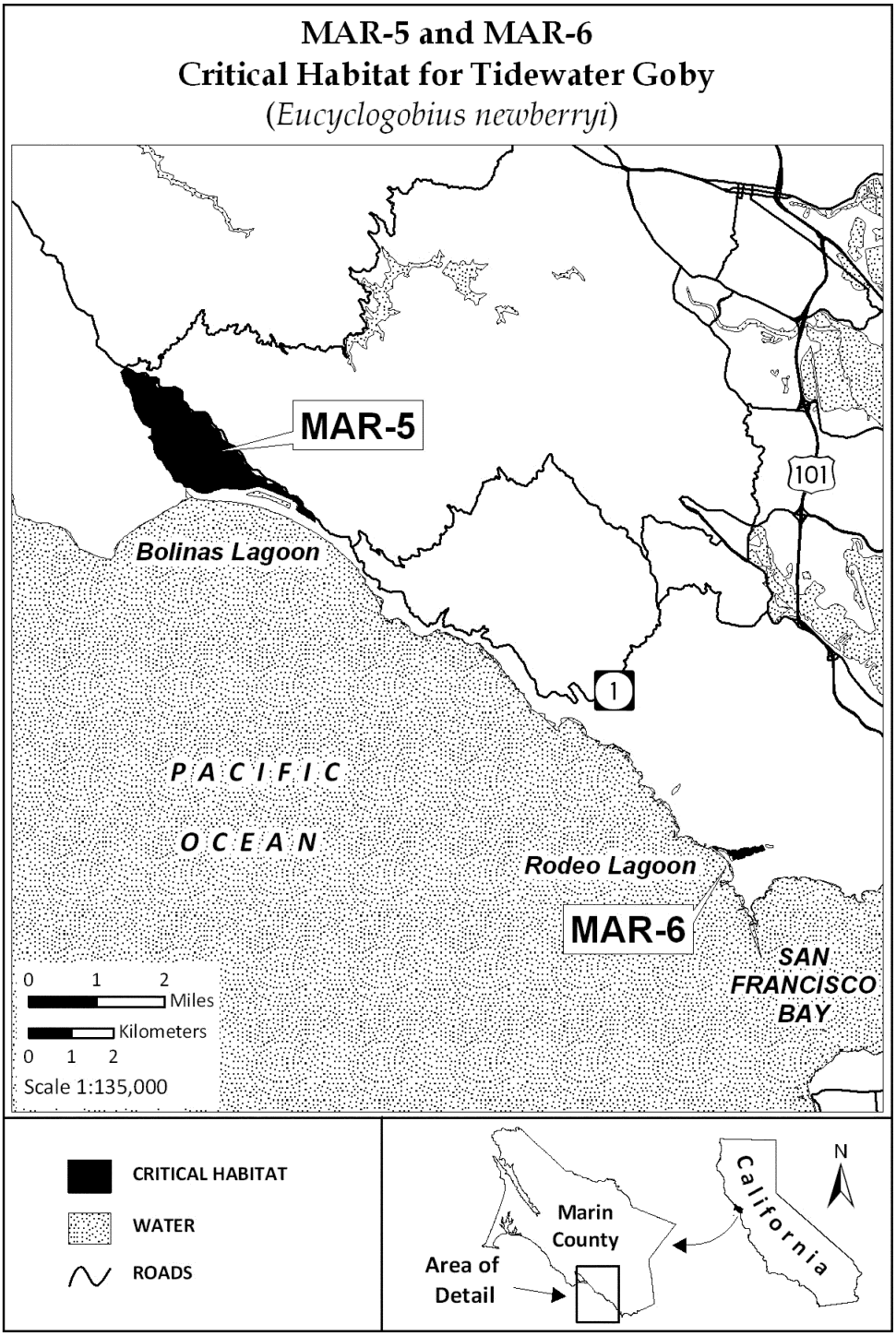
(i) [Reserved for textual description of Unit MAR–5: Bolinas Lagoon, Marin County, California]

(ii) **Note:** Map of Unit MAR–5: Bolinas Lagoon, Marin County, California, is depicted on the map in paragraph (23)(ii) of this entry.

(23) Unit MAR–6: Rodeo Lagoon, Marin County, California.

(i) [Reserved for textual description of Unit MAR–6: Rodeo Lagoon, Marin County, California]

(ii) **Note:** Map of Unit MAR–5: Bolinas Lagoon, and Unit MAR–6: Rodeo Lagoon, Marin County, California, follows:



(24) Unit SM–1: San Gregorio Creek, San Mateo County, California.

(i) [Reserved for textual description of Unit SM–1: San Gregorio Creek, San Mateo County, California]

(ii) **Note:** Map of Unit SM–1: San Gregorio Creek, San Mateo County, California, is depicted on the map in paragraph (27)(ii) of this entry.

(25) Unit SM–2: Pomponio Creek, San Mateo County, California.

(i) [Reserved for textual description of Unit SM–1: Pomponio Creek, San Mateo County, California]

(ii) **Note:** Map of Unit SM–2: Pomponio Creek, San Mateo County, California, is depicted on the map in paragraph (27)(ii) of this entry.

(26) Unit SM–3: Pescadero—Butano Creek, San Mateo County, California.

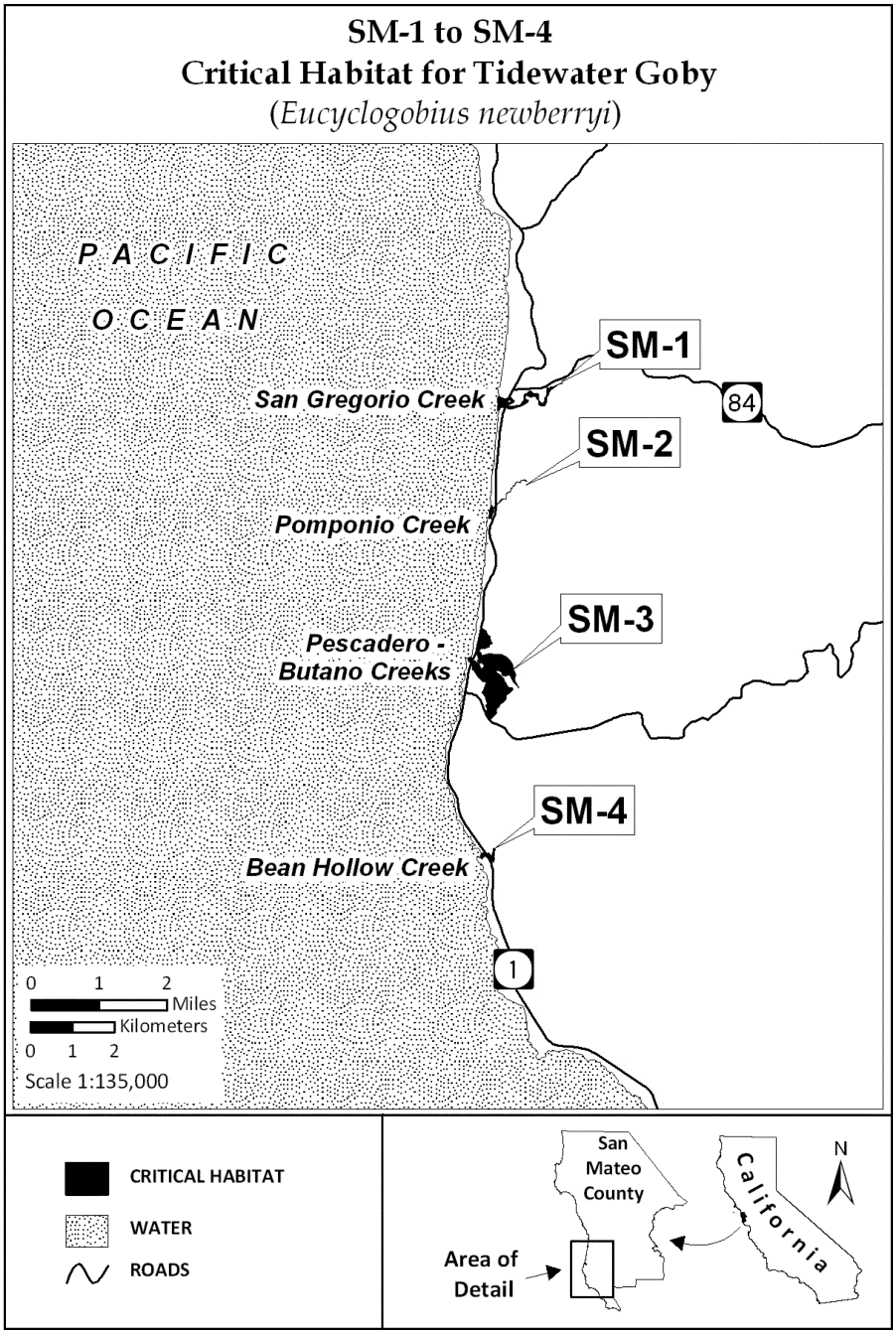
(i) [Reserved for textual description of Unit SM–3: Pescadero—Butano Creek, San Mateo County, California]

(ii) **Note:** Map of Unit SM–3: Pescadero—Butano Creek, San Mateo County, California, is depicted on the map in paragraph (27)(ii) of this entry.

(27) Unit SM–4: Bean Hollow Creek, San Mateo County, California.

(i) [Reserved for textual description of Unit SM–4: Bean Hollow Creek, San Mateo County, California]

(ii) **Note:** Map of Unit SM–1: San Gregorio Creek, Unit SM–2: Pomponio Creek, Unit SM–3: Pescadero–Butano Creek, and Unit SM–4: Bean Hollow Creek, San Mateo County, California, follows:



(28) Unit SC–1: Waddell Creek, Santa Cruz County, California.

(i) [Reserved for textual description of Unit SC–1: Waddell Creek, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–1: Waddell Creek, Santa Cruz County, California, is depicted on the map in paragraph (31)(ii) of this entry.

(29) Unit SC–2: Scott Creek, Santa Cruz County, California.

(i) [Reserved for textual description of Unit SC–2: Scott Creek, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–2: Scott Creek, Santa Cruz County, California, is depicted on the map in paragraph (31)(ii) of this entry.

(30) Unit SC–3: Laguna Creek, Santa Cruz County, California.

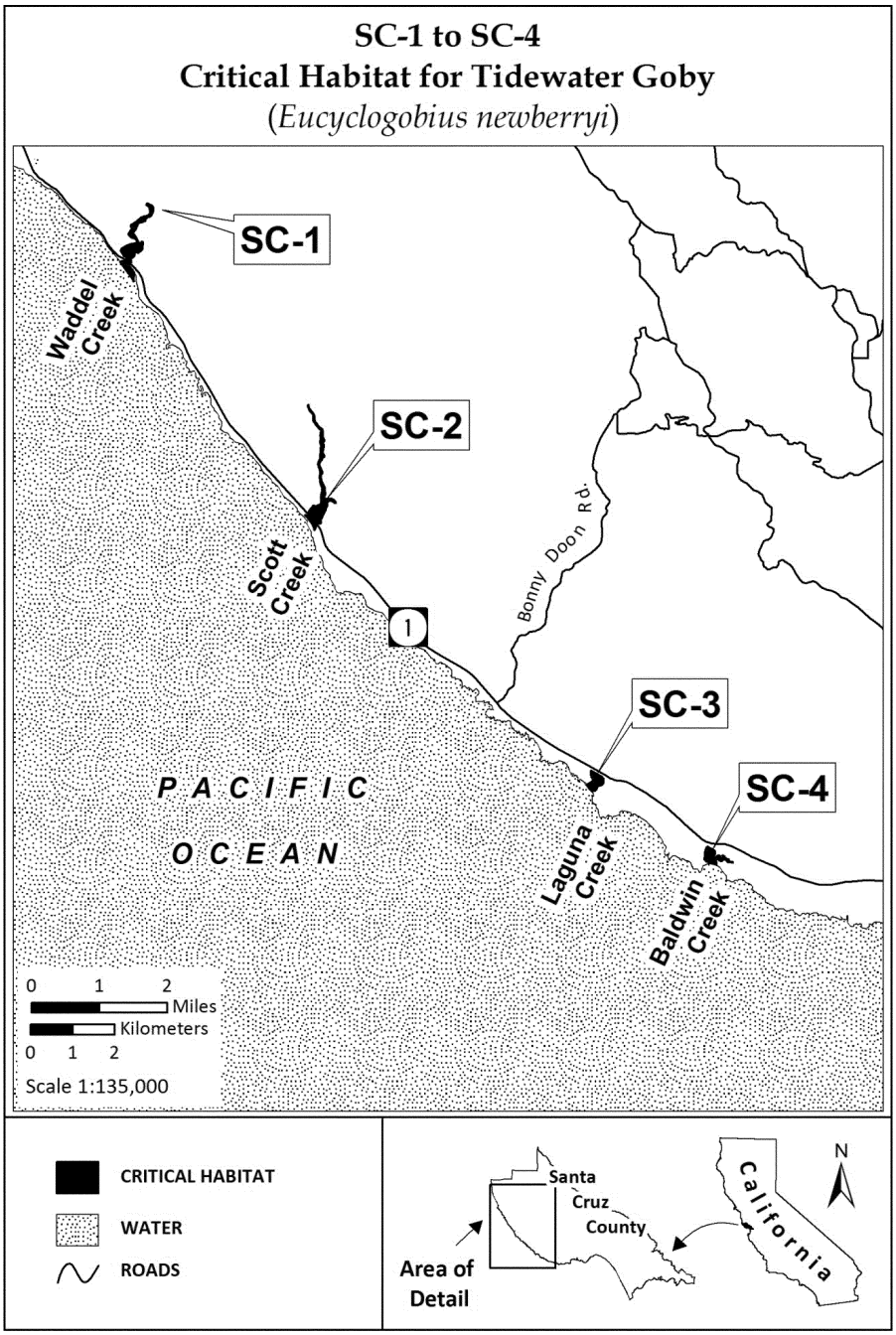
(i) [Reserved for textual description of Unit SC–3: Laguna Creek, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–3: Laguna Creek, Santa Cruz County, California, is depicted on the map in paragraph (31)(ii) of this entry.

(31) Unit SC–4: Baldwin Creek, Santa Cruz County, California.

(i) [Reserved for textual description of Unit SC–4: Baldwin Creek, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–1: Waddell Creek, Unit SC–2: Scott Creek, Unit SC–3: Laguna Creek, and Unit SC–4: Baldwin Creek, Santa Cruz County, California, follows:



(32) Unit SC–5: Moore Creek, Santa Cruz County, California.

(i) [Reserved for textual description of Unit SC–5: Moore Creek, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–5: Moore Creek, Santa Cruz County, California, is depicted on the map in paragraph (34)(ii) of this entry.

(33) Unit SC–6: Corcoran Lagoon, Santa Cruz County, California.

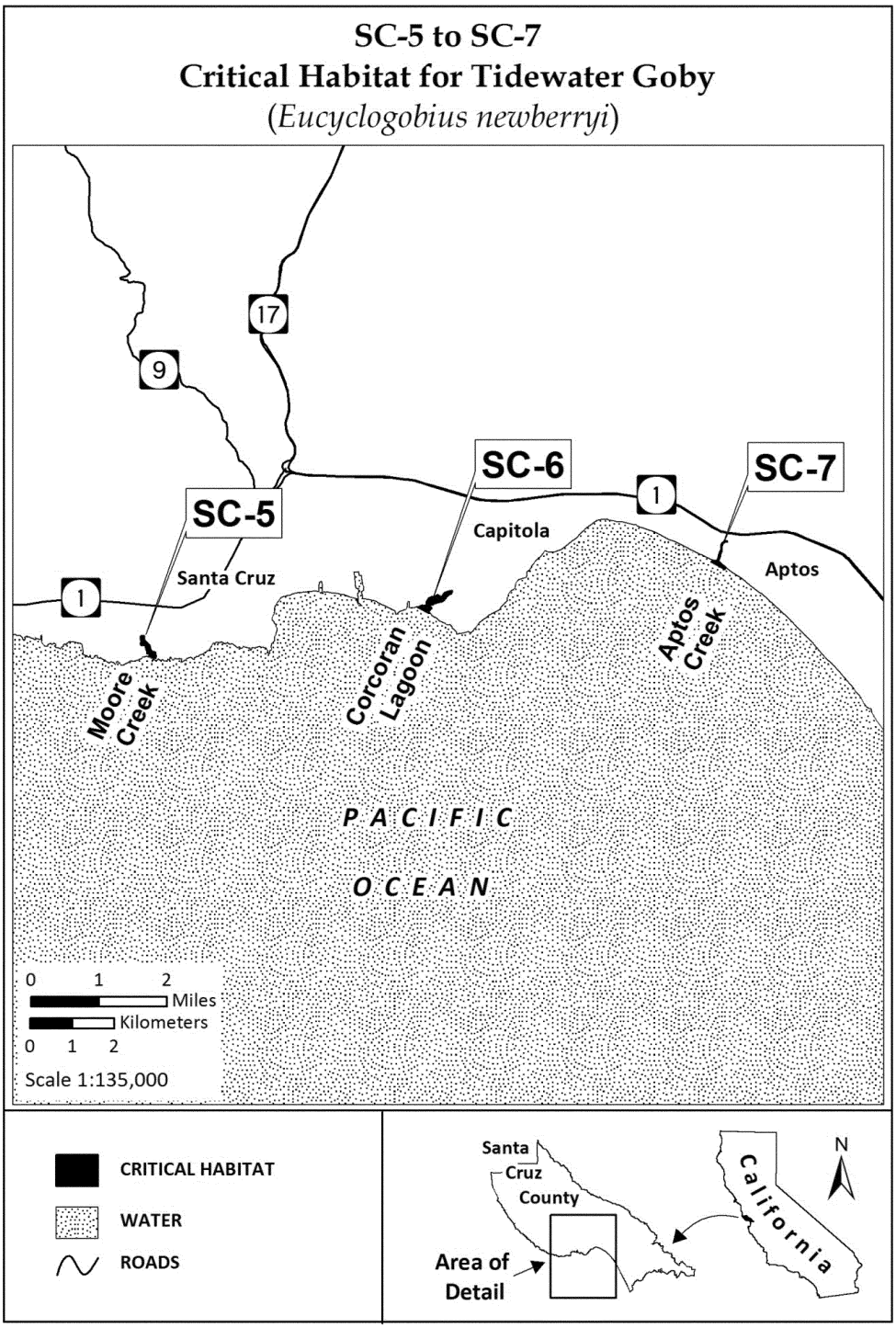
(i) [Reserved for textual description of Unit SC–6: Corcoran Lagoon, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–6: Corcoran Lagoon, Santa Cruz County, California, is depicted on the map in paragraph (34)(ii) of this entry.

(34) Unit SC–7: Aptos Creek, Santa Cruz County, California.

(i) [Reserved for textual description of Unit SC–7: Aptos Creek, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–5: Moore Creek, Unit SC–6: Corcoran Lagoon, and Unit SC–7: Aptos Creek, Santa Cruz County, California, follows:



(35) Unit SC–8: Pajaro River, Santa Cruz County, California.

(i) [Reserved for textual description of Unit SC–8: Pajaro River, Santa Cruz County, California]

(ii) **Note:** Map of Unit SC–8: Pajaro River, Santa Cruz County, California, is depicted on the map in paragraph (37)(ii) of this entry.

(36) Unit MN–1: Bennett Slough, Monterey County, California.

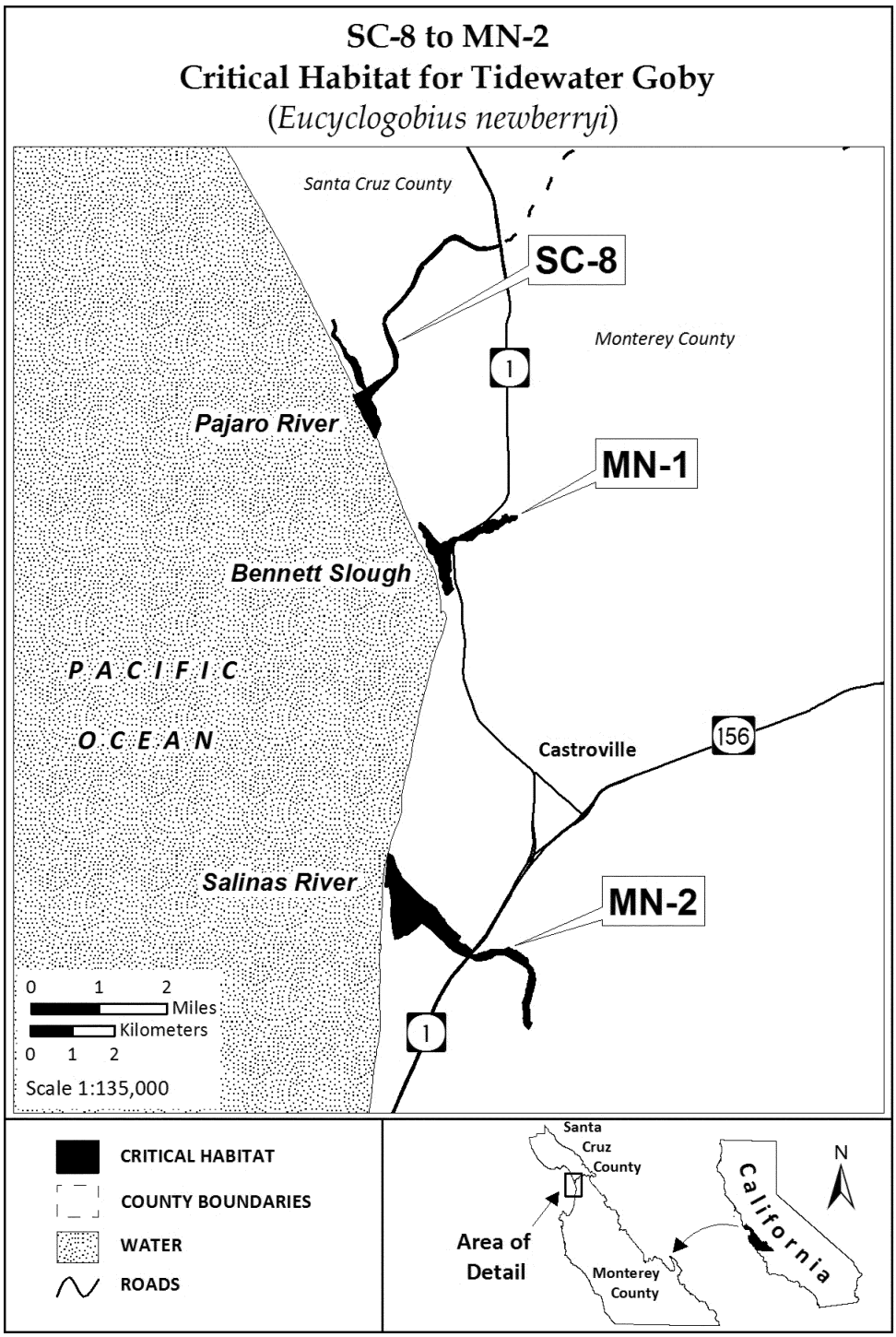
(i) [Reserved for textual description of Unit MN–1: Bennett Slough, Monterey County, California]

(ii) **Note:** Map of Unit MN–1: Bennett Slough, Monterey County, California, is depicted on the map in paragraph (37)(ii) of this entry.

(37) Unit MN–2: Salinas River, Monterey County, California.

(i) [Reserved for textual description of Unit MN–2: Salinas River, Monterey County, California]

(ii) **Note:** Map of Unit SC–8: Pajaro River, Santa Cruz County, California and Unit MN–1: Bennett Slough, and Unit MN–2: Salinas River, Monterey County, California, follows:



(38) Unit SLO–1: Arroyo de la Cruz, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–1: Arroyo de la Cruz, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–1: Arroyo de la Cruz, San Luis Obispo County, California, is depicted on the map in paragraph (42)(ii) of this entry.

(39) Unit SLO–2: Arroyo del Corral, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–2: Arroyo del Corral, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–2: Arroyo del Corral, San Luis Obispo County, California, is depicted on the map in paragraph (42)(ii) of this entry.

(40) Unit SLO–3: Oak Knoll Creek, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–3: Oak Knoll Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–3: Oak Knoll Creek, San Luis Obispo County, California, is depicted on the map in paragraph (42)(ii) of this entry.

(41) Unit SLO–4: Little Pico Creek, San Luis Obispo County, California.

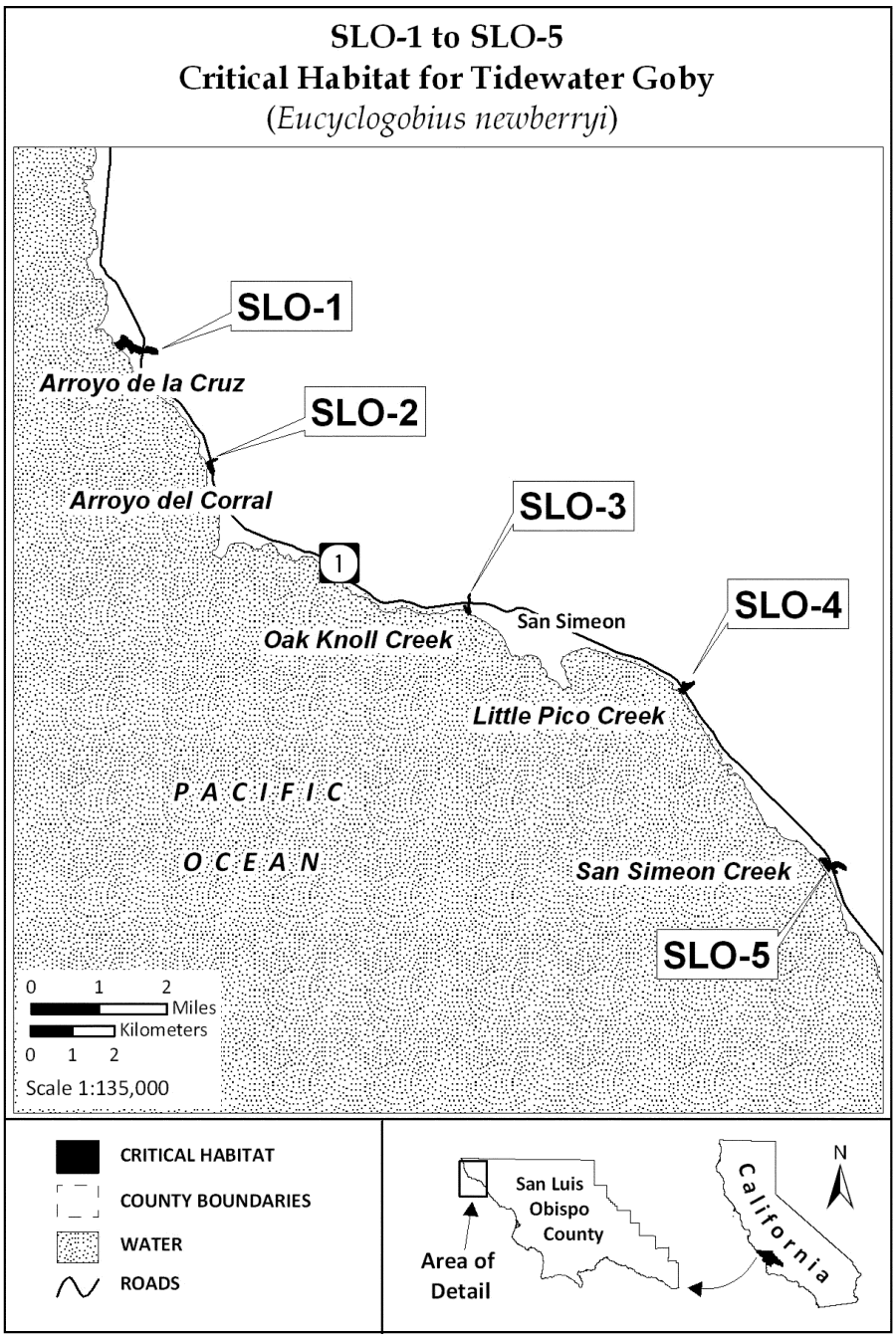
(i) [Reserved for textual description of Unit SLO–4: Little Pico Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–4: Little Pico Creek, San Luis Obispo County, California, is depicted on the map in paragraph (42)(ii) of this entry.

(42) Unit SLO–5: San Simeon Creek, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–5: San Simeon Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–1: Arroyo de la Cruz, Unit SLO–2: Arroyo del Corral, Unit SLO–3: Oak Knoll Creek, Unit SLO–4: Little Pico Creek, and Unit SLO–5: San Simeon Creek, San Luis Obispo County, California, follows:



(43) Unit SLO–6: Villa Creek, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–6: Villa Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–6: Villa Creek, San Luis Obispo County, California, is depicted on the map in paragraph (46)(ii) of this entry.

(44) Unit SLO–7: San Geronimo Creek, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–7: San Geronimo Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–7: San Geronimo Creek, San Luis Obispo County, California, is depicted on the map in paragraph (46)(ii) of this entry.

(45) Unit SLO–8: Toro Creek, San Luis Obispo County, California.

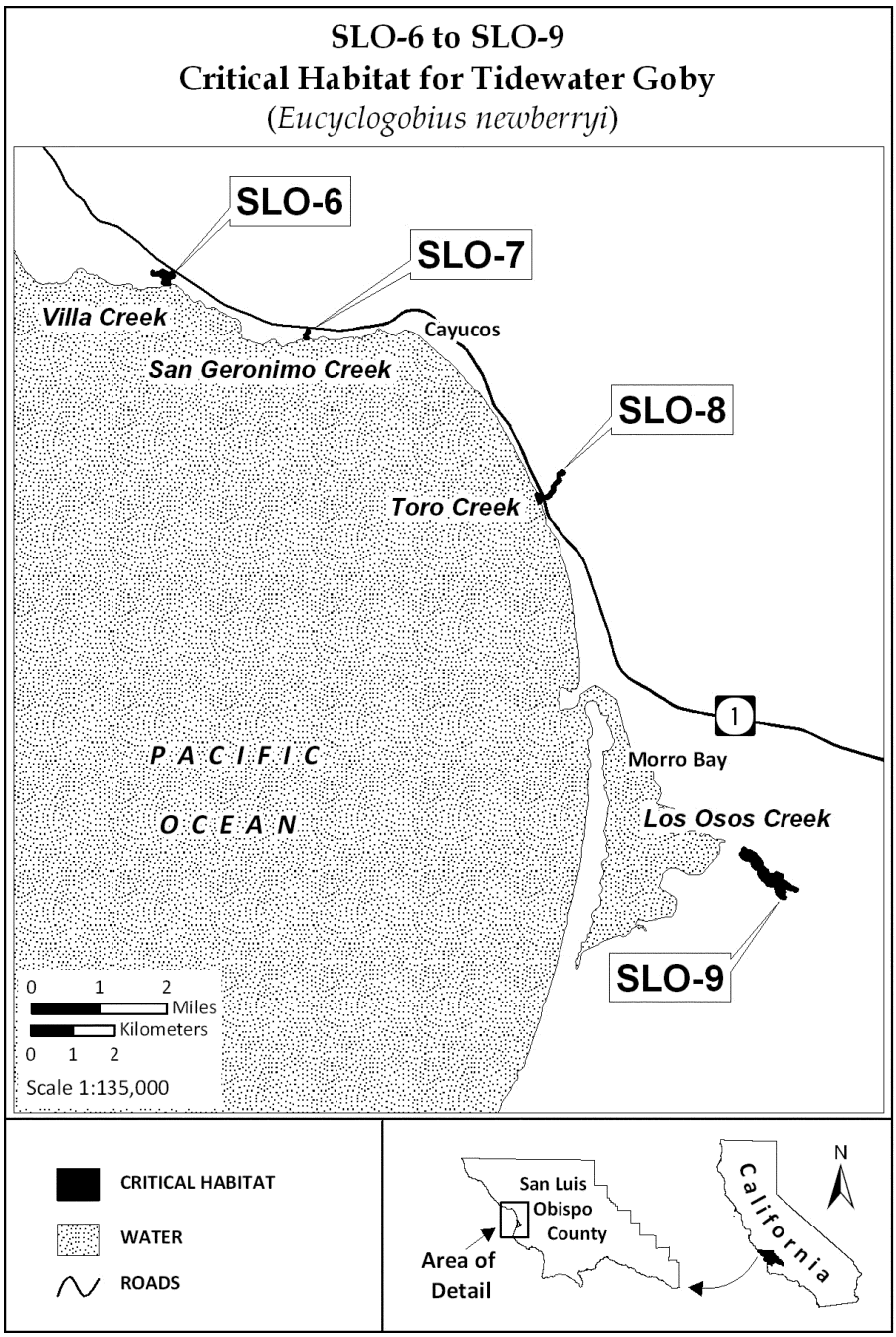
(i) [Reserved for textual description of Unit SLO–8: Toro Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–8: Toro Creek, San Luis Obispo County, California, is depicted on the map in paragraph (46)(ii) of this entry.

(46) Unit SLO–9: Los Osos Creek, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–9: Los Osos Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–6: Villa Creek, Unit SLO–7: San Geronimo Creek, Unit SLO–8: Toro Creek, and Unit SLO–9: Los Osos Creek, San Luis Obispo County, California, follows:



(47) Unit SLO–10: San Luis Obispo Creek, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–10: San Luis Obispo Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–10: San Luis Obispo Creek, San Luis Obispo County, California, is depicted on the map in paragraph (50)(ii) of this entry.

(48) Unit SLO–11: Pismo Creek, San Luis Obispo County, California.

(i) [Reserved for textual description of Unit SLO–11: Pismo Creek, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–11: Pismo Creek, San Luis Obispo County, California, is depicted on the map in paragraph (50)(ii) of this entry.

(49) Unit SLO–12: Oso Flaco Lake, San Luis Obispo County, California.

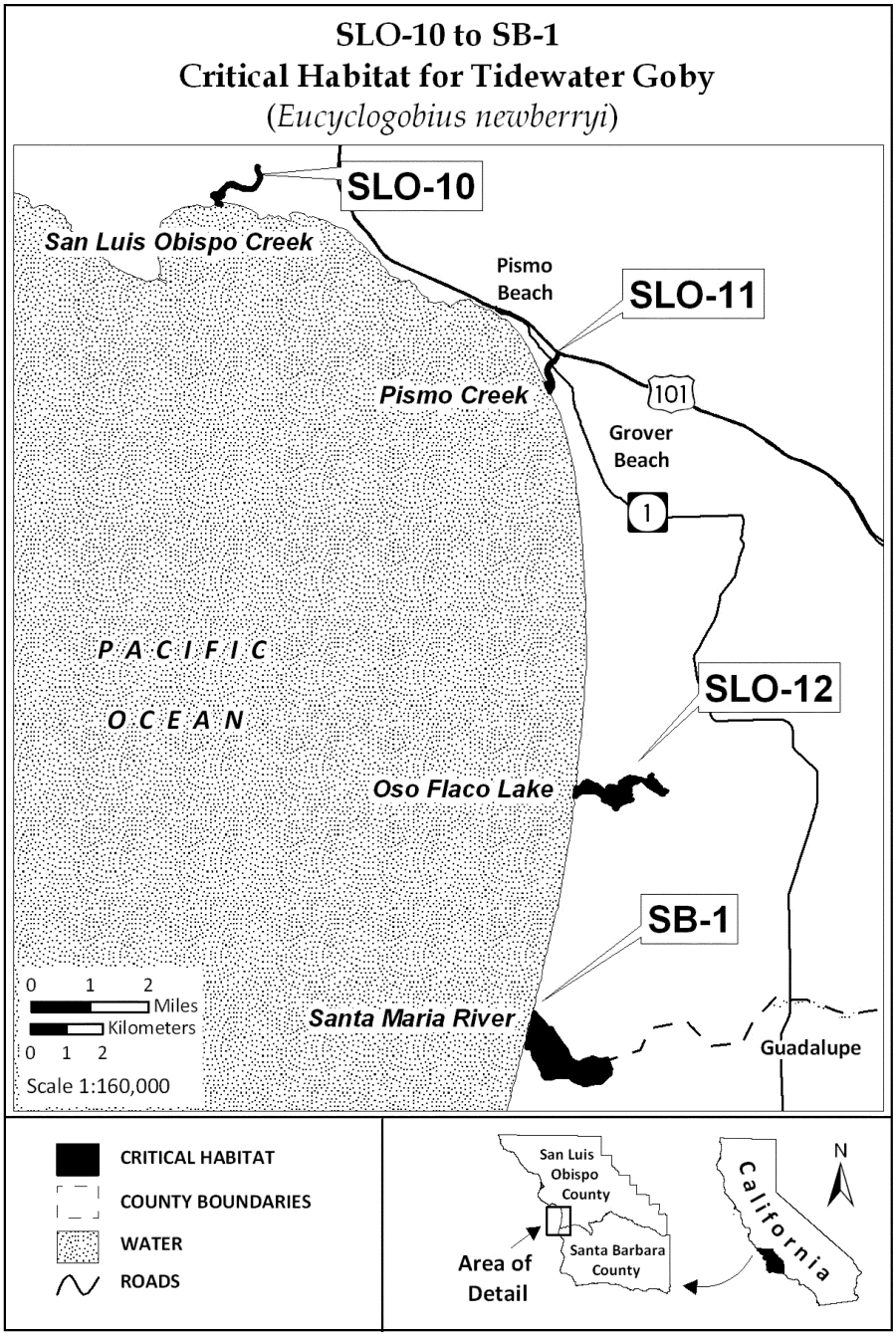
(i) [Reserved for textual description of Unit SLO–12: Oso Flaco Lake, San Luis Obispo County, California]

(ii) **Note:** Map of Unit SLO–12: Oso Flaco Lake, San Luis Obispo County, California, is depicted on the map in paragraph (50)(ii) of this entry.

(50) Unit SB–1: Santa Maria River, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–1: Santa Maria River, Santa Barbara County, California]

(ii) **Note:** Map of Unit SLO–10: San Luis Obispo Creek, Unit SLO–11: Pismo Creek, Unit SLO–12: Oso Flaco Lake in San Luis Obispo County, and Unit SB–1: Santa Maria River, in Santa Barbara County, California, follows:



(51) Unit SB–2: Cañada de las Agujas, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–2: Cañada de las Agujas, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–2: Cañada de las Agujas, Santa Barbara County, California, is depicted on the map in paragraph (56)(ii) of this entry.

(52) Unit SB–3: Cañada de Santa Anita, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–3: Cañada de Santa Anita, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–3: Cañada de Santa Anita, Santa Barbara County, California, is depicted on the map in paragraph (56)(ii) of this entry.

(53) Unit SB–4: Cañada de Alegria, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–4: Cañada de Alegria, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–4: Cañada de Alegria, Santa Barbara County, California, is depicted on the map in paragraph (56)(ii) of this entry.

(54) Unit SB–5: Cañada del Agua Caliente, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–5: Cañada del Agua Caliente, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–5: Cañada del Agua Caliente, Santa Barbara County, California, is depicted on the map in paragraph (56)(ii) of this entry.

(55) Unit SB–6: Gaviota Creek, Santa Barbara County, California.

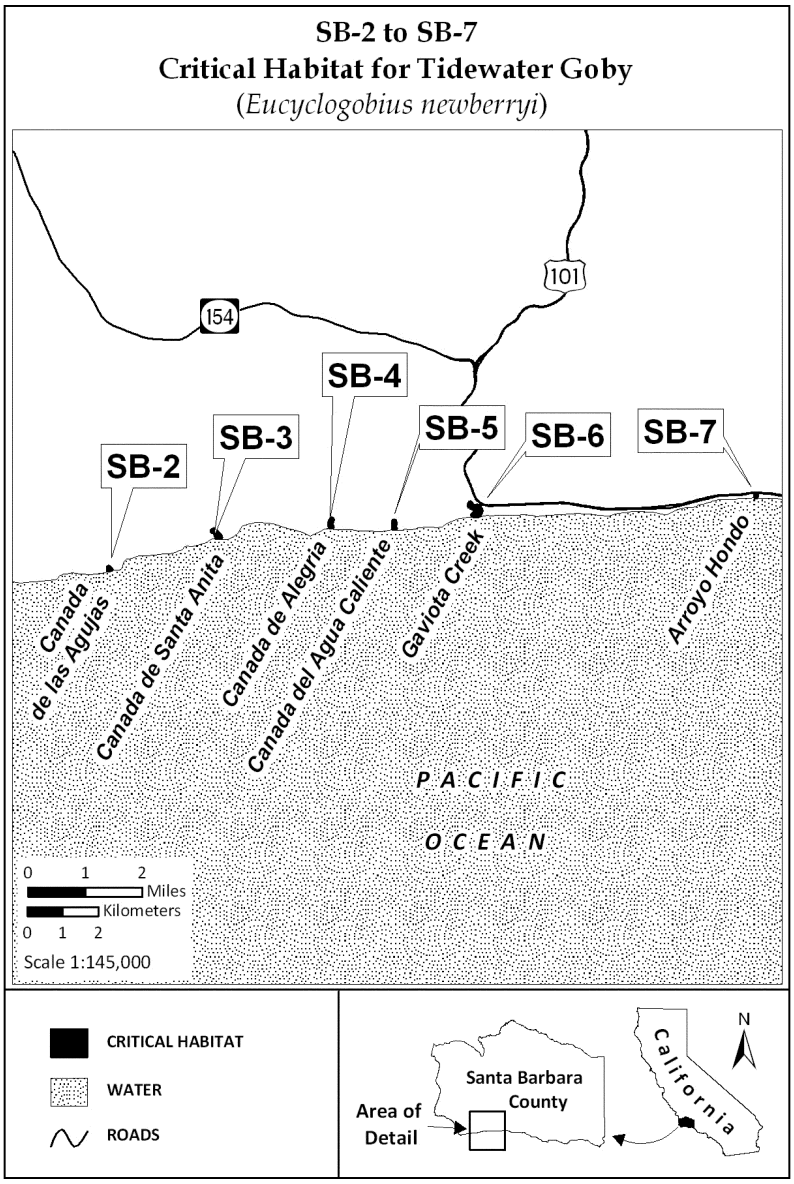
(i) [Reserved for textual description of Unit SB–6: Gaviota Creek, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–6: Gaviota Creek, Santa Barbara County, California, is depicted on the map in paragraph (56)(ii) of this entry.

(56) Unit SB–7: Arroyo Hondo, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–7: Arroyo Hondo, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–2: Cañada de las Agujas, Unit SB–3: Cañada de Santa Anita, Unit SB–4: Cañada de Alegria, Unit SB–5: Cañada del Agua Caliente, Unit SB–6: Gaviota Creek, and Unit SB–7: Arroyo Hondo, Santa Barbara County, California, follows:



(57) Unit SB–8: Winchester/Bell Canyon, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–8: Winchester/Bell Canyon, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–8: Winchester/Bell Canyon, Santa Barbara County, California, is depicted on the map in paragraph (59)(ii) of this entry.

(58) Unit SB–9: Goleta Slough, Santa Barbara County, California.

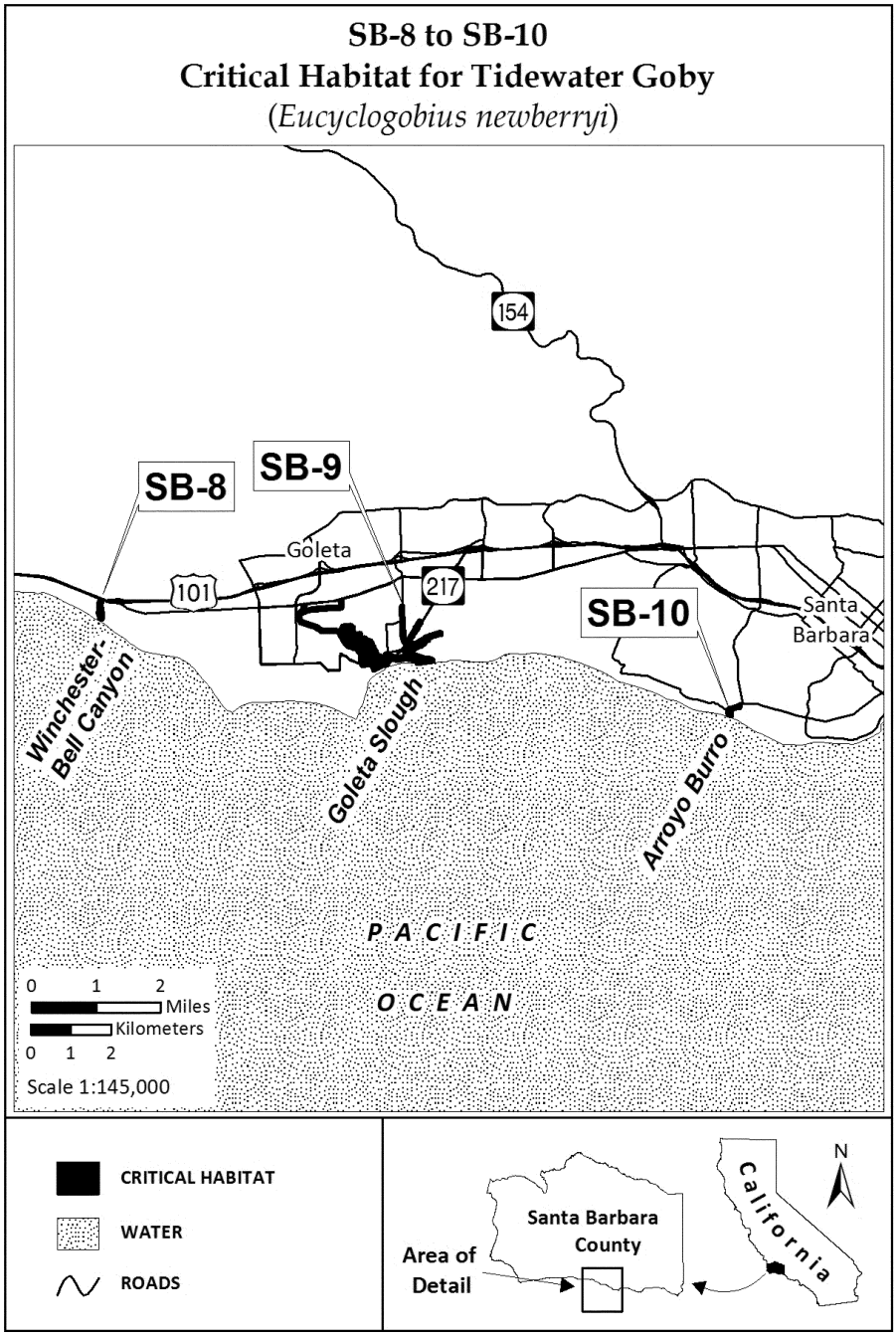
(i) [Reserved for textual description of Unit SB–9: Goleta Slough, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–9: Goleta Slough, Santa Barbara County, California, is depicted on the map in paragraph (59)(ii) of this entry.

(59) Unit SB–10: Arroyo Burro, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–10: Arroyo Burro, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–8: Winchester/Bell Canyon, Unit SB–9: Goleta Slough, and Unit SB–10: Arroyo Burro, Santa Barbara County, California, follows:



(60) Unit SB–11: Mission Creek—Laguna Channel, Santa Barbara County, California.

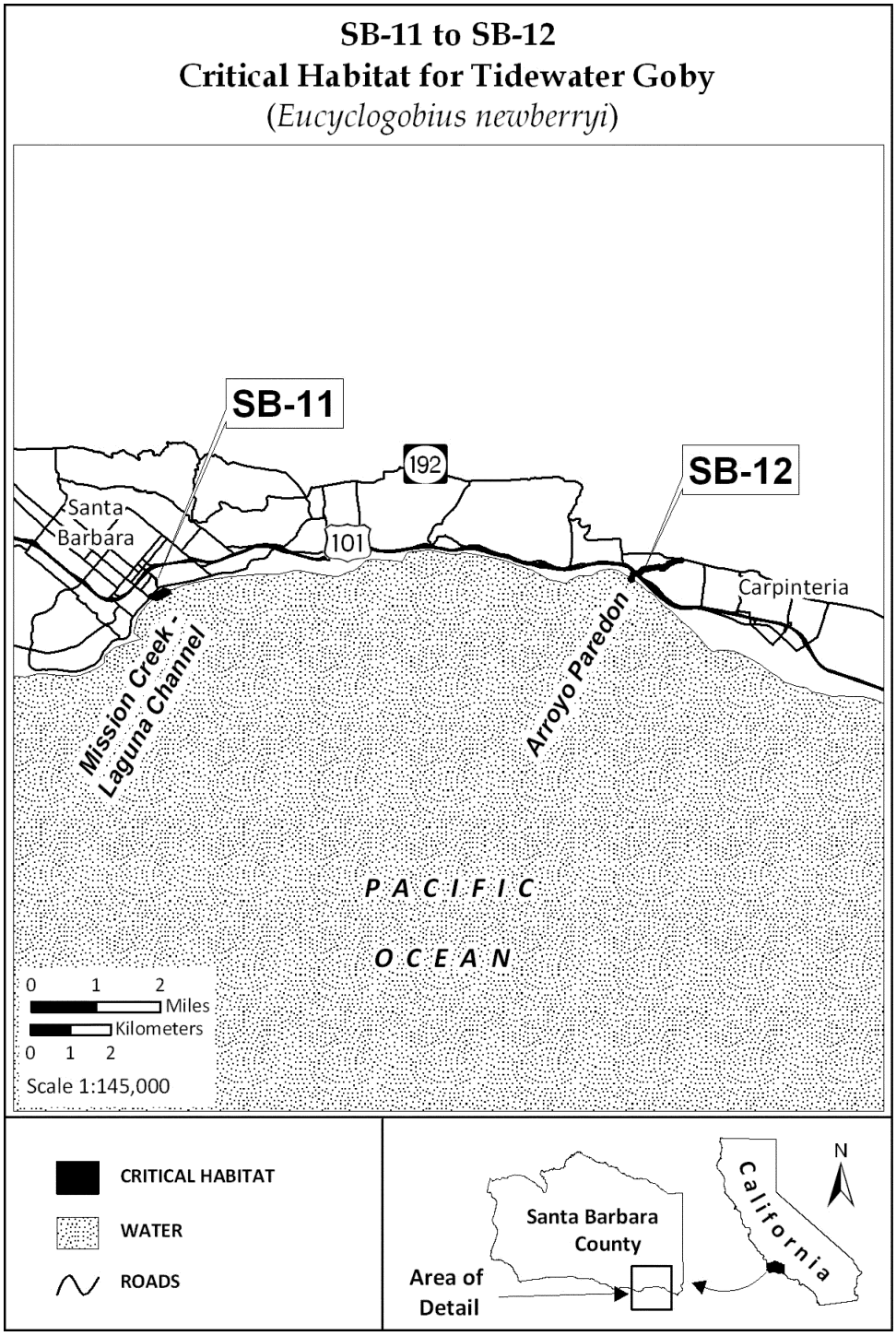
(i) [Reserved for textual description of Unit SB–11: Mission Creek—Laguna Channel, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–11: Mission Creek—Laguna Channel, Santa Barbara County, California, is depicted on the map in paragraph (61)(ii) of this entry.

(61) Unit SB–12: Arroyo Paredon, Santa Barbara County, California.

(i) [Reserved for textual description of Unit SB–12: Arroyo Paredon, Santa Barbara County, California]

(ii) **Note:** Map of Unit SB–11: Mission Creek—Laguna Channel, and Unit SB–12: Arroyo Paredon, Santa Barbara County, California, follows:



(62) Unit VEN–1: Ventura River, Ventura County, California.

(i) [Reserved for textual description of Unit VEN–1: Ventura River, Ventura County, California]

(ii) **Note:** Map of Unit VEN–1: Ventura River, Ventura County, California, is depicted on the map in paragraph (64)(ii) of this entry.

(63) Unit VEN–2: Santa Clara River, Ventura County, California.

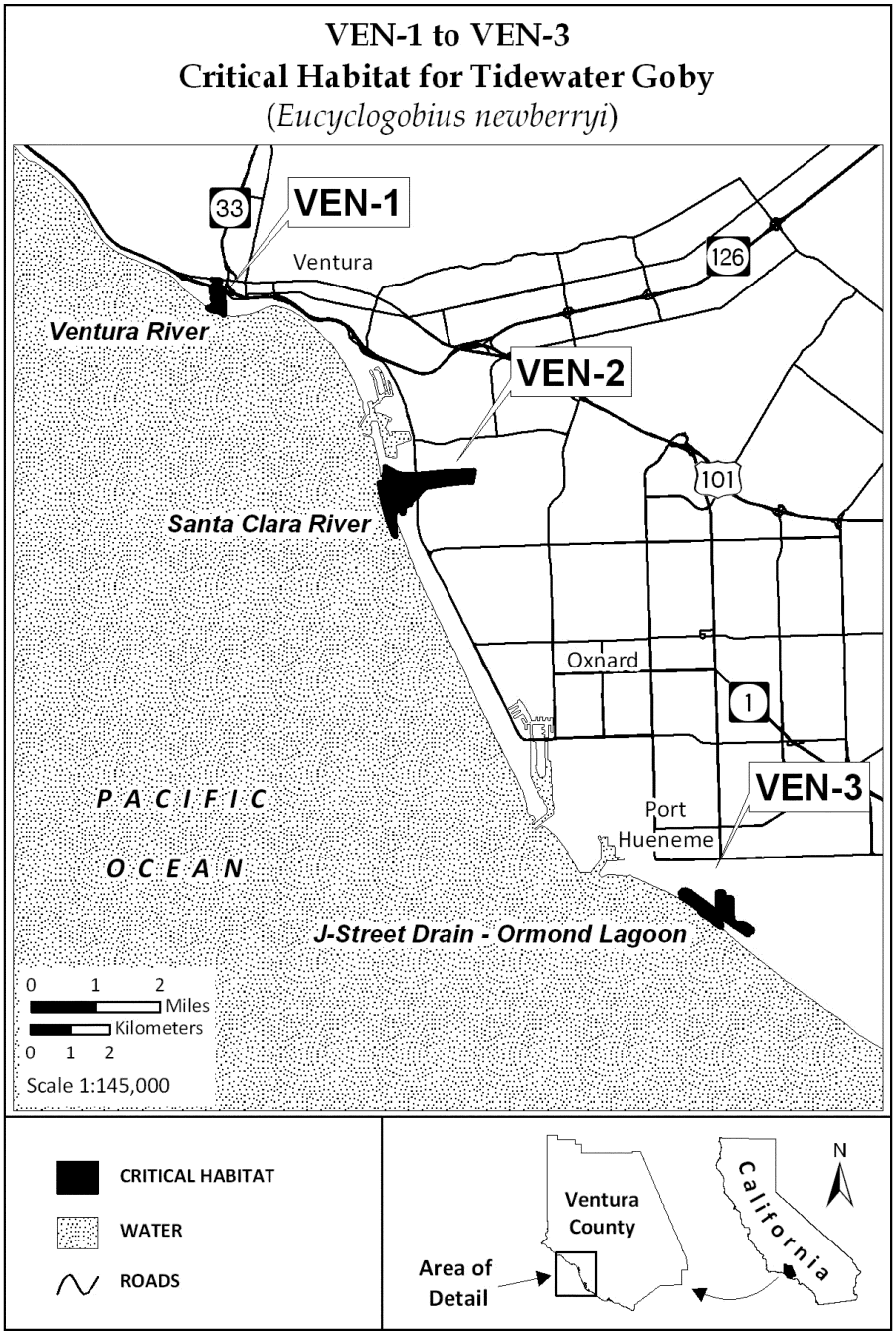
(i) [Reserved for textual description of Unit VEN–2: Santa Clara River, Ventura County, California]

(ii) **Note:** Map of Unit VEN–2: Santa Clara River, Ventura County, California, is depicted on the map in paragraph (64)(ii) of this entry.

(64) Unit VEN–3: J Street Drain—Ormond Lagoon, Ventura County, California.

(i) [Reserved for textual description of Unit VEN–3: J Street Drain–Ormond Lagoon, Ventura County, California]

(ii) **Note:** Map of Unit VEN–1: Ventura River, Unit VEN–2: Santa Clara River, and Unit VEN–3: J Street Drain—Ormond Lagoon, Ventura County, California, follows:



(65) Unit VEN–4: Big Sycamore Canyon, Ventura County, California.

(i) [Reserved for textual description of Unit VEN–4: Big Sycamore Canyon, Ventura County, California]

(ii) **Note:** Map of Unit VEN–4: Big Sycamore Canyon, Ventura County, California, is depicted on the map in paragraph (67)(ii) of this entry.

(66) Unit LA–1: Arroyo Sequit, Los Angeles County, California.

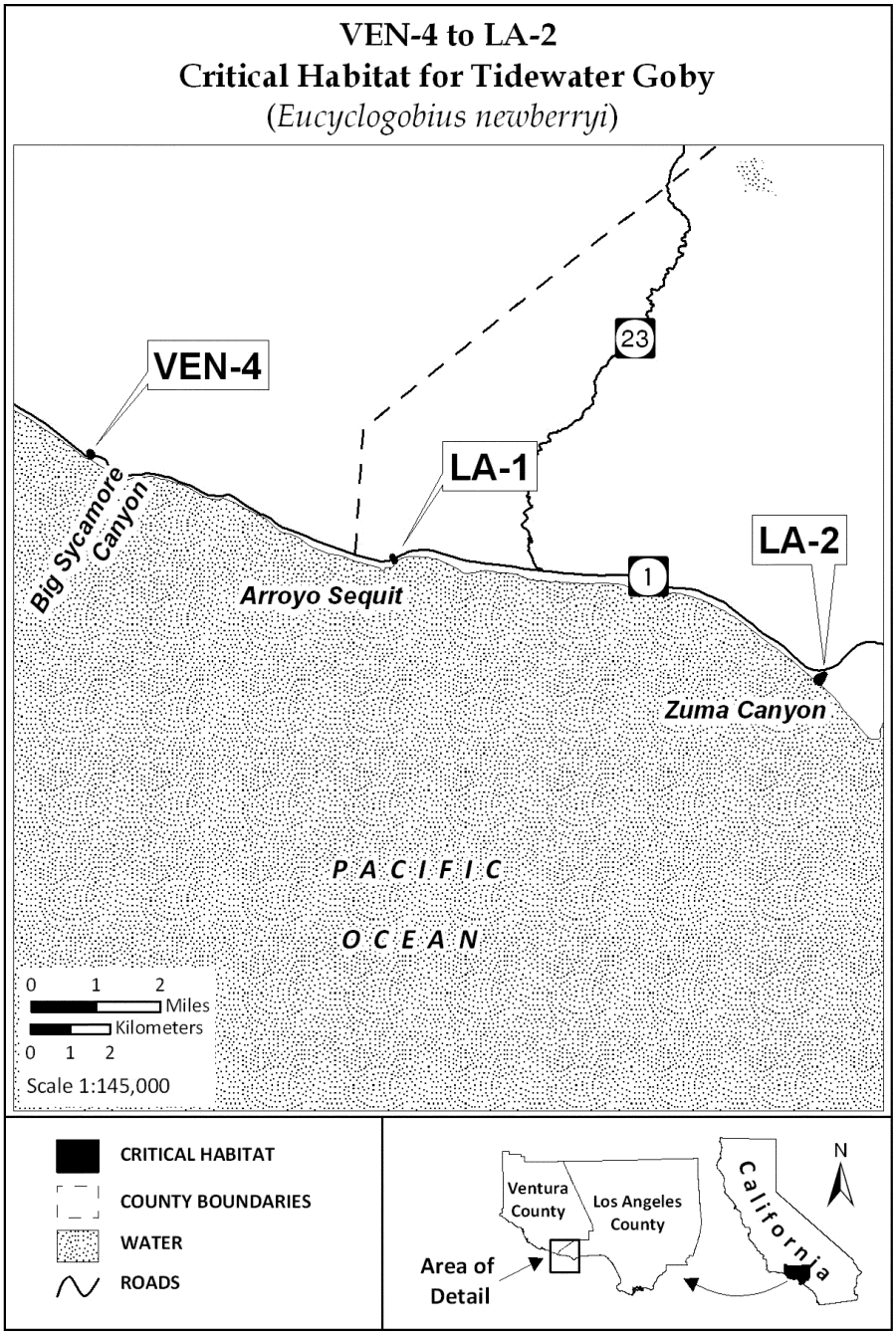
(i) [Reserved for textual description of Unit LA–1: Arroyo Sequit, Los Angeles County, California]

(ii) **Note:** Map of Unit LA–1: Arroyo Sequit, Los Angeles County, California, is depicted on the map in paragraph (67)(ii) of this entry.

(67) Unit LA–2: Zuma Canyon, Los Angeles County, California.

(i) [Reserved for textual description of Unit LA–2: Zuma Canyon, Los Angeles County, California]

(ii) **Note:** Map of Unit VEN–4: Big Sycamore Canyon, in Ventura County, and Unit LA–1: Arroyo Sequit, and Unit LA–2: Zuma Canyon, Los Angeles County, California, follows:



(68) Unit LA–3: Malibu Lagoon, Los Angeles County, California.

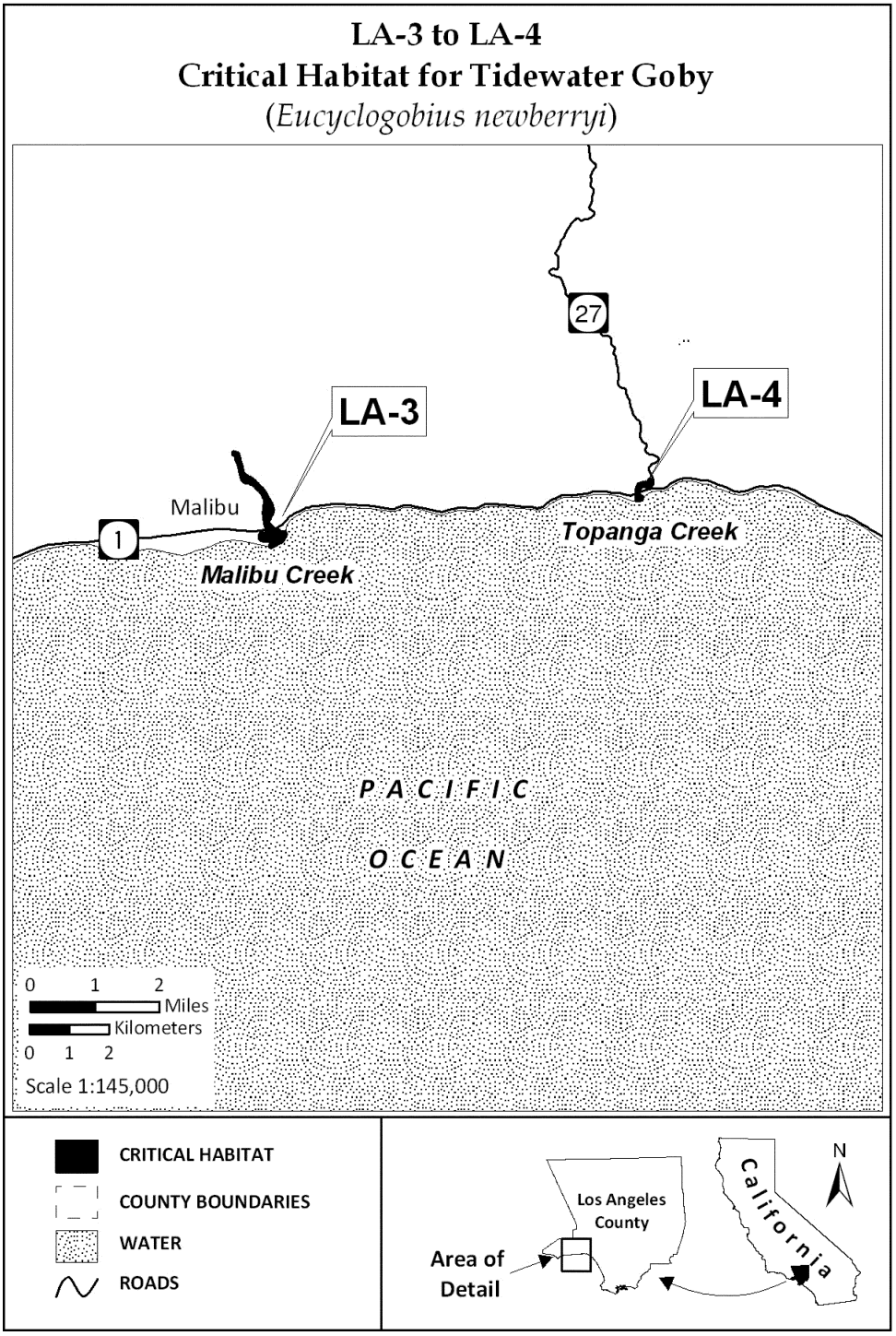
(i) [Reserved for textual description of Unit LA–3: Malibu Lagoon, Los Angeles County, California]

(ii) **Note:** Map of Unit LA–3: Malibu Lagoon, Los Angeles County, California, is depicted on the map in paragraph (69)(ii) of this entry.

(69) Unit LA–4: Topanga Creek, Los Angeles County, California.

(i) [Reserved for textual description of Unit LA–4: Topanga Creek, Los Angeles County, California]

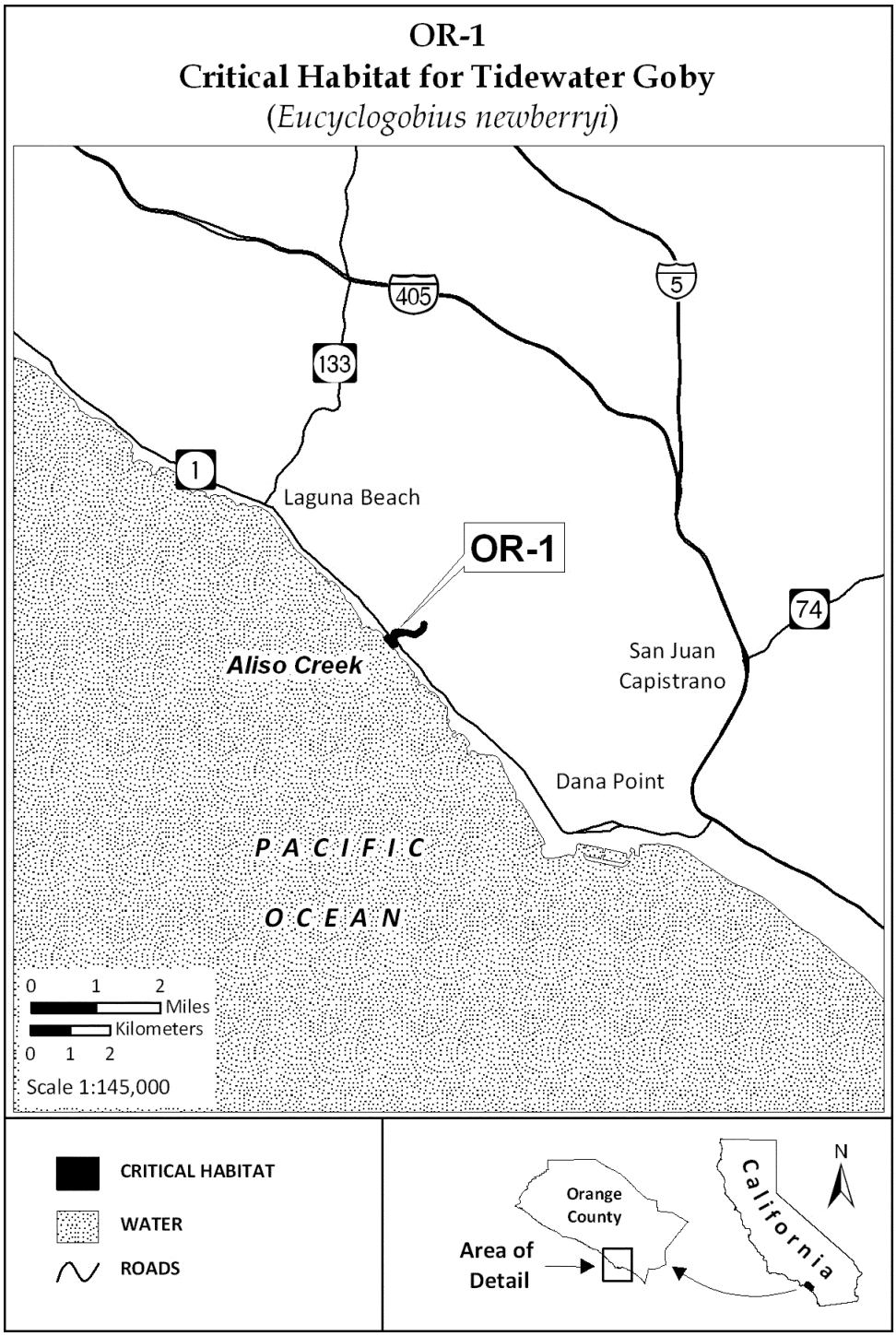
(ii) **Note:** Map of Unit LA–3: Malibu Lagoon, and Unit LA–4: Topanga Creek, Los Angeles County, California, follows:



(70) Unit OR–1: Aliso Creek, Orange County, California.

(i) [Reserved for textual description of Unit OR–1: Aliso Creek, Orange County, California]

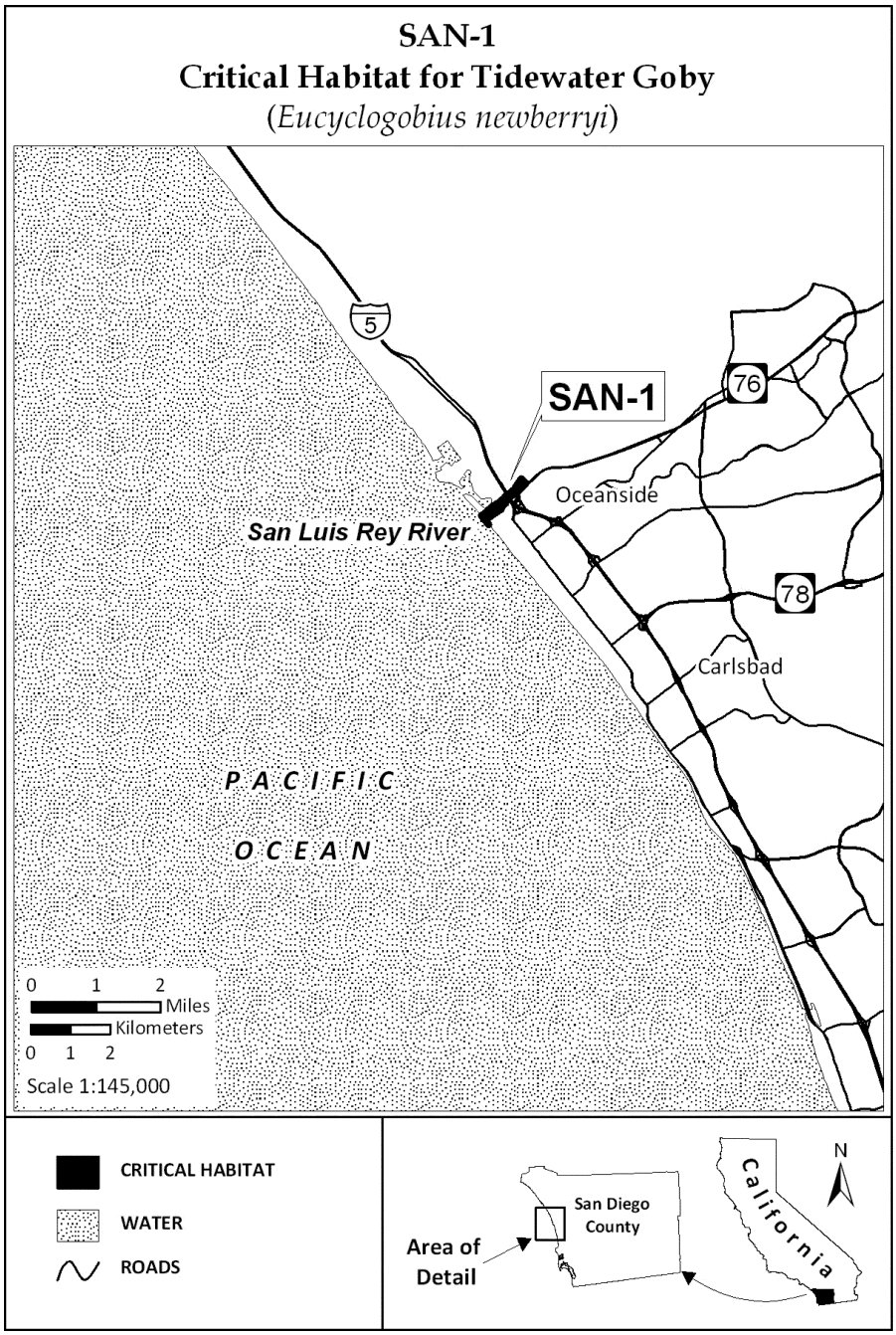
(ii) **Note:** Map of Unit OR–1: Aliso Creek, Orange County, California, follows:



(71) Unit SAN–1: San Luis Rey River, San Diego County, California.

(i) [Reserved for textual description of Unit SAN–1: San Luis Rey River, San Diego County, California]

(ii) **Note:** Map of Unit SAN–1: San Luis Rey River, San Diego County, California, follows:

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Dated: October 4, 2011.

**Rachel Jacobson,**

*Acting Assistant Secretary for Fish and Wildlife and Parks.*

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